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CATALOG 1972-1973 OF THE UNIVERSITY OF SCRANTON GRADUATE SCHOOL

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The Graduate School

For Men and Women

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Phone: (717) 347-3321

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"University of Scranton"

Scranton, Pennsylvania

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Middle States Association of Colleges and Secondary Schools

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| | |
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UNIVERSITY OF SCRANTON GRADUATE SCHOOL

CALENDAR FOR FALL - 1972

| | |
|--------------------------|---|
| September 6, 7..... | Registration |
| September 7..... | Classes Begin |
| September 16..... | Final day for late registration and change of course. |
| October 14..... | Comprehensive Examinations |
| October 21..... | Last Day for submission of Graduate Thesis and Scholarly Paper (Final Draft) |
| November 23, 24, 25..... | Thanksgiving Holidays |
| December 8..... | Holy Day (No classes) * |
| December 18-23..... | Final Examinations |
| December 23..... | Semester Ends |

*Also Dean's Birthday

CALENDAR FOR INTERSESSION - 1973

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|-----------------|--------------------|
| January 3..... | Registration |
| January 3..... | Classes Begin |
| January 31..... | Final Examinations |
| January 31..... | Semester Ends |

CALENDAR FOR SPRING - 1973

| | |
|--------------------|---|
| February 5..... | Registration |
| February 5..... | Classes Begin |
| February 12..... | Final Day for late registration and change of course. |
| March 10..... | Comprehensive Examinations |
| March 19..... | Last day for submission of Graduate Thesis and Scholarly Paper (Final Draft) |
| April 16 - 22..... | Easter Holidays |
| April 23..... | Classes Resume |
| May 14 - 19..... | Final Examinations |
| May 19..... | Semester Ends |
| May 26..... | Baccalaureate Mass and Class Day |
| May 27..... | Commencement |

CALENDAR FOR SUMMER - 1973

| | |
|------------------|--|
| June 25..... | Registration |
| June 25..... | Classes Begin |
| June 27..... | Final day for late registration and change of course. |
| July 4..... | Independence Day (No Classes) |
| August 3, 4..... | Final Examination |
| August 4..... | Semester Ends |



CALENDAR FOR COLLEGE MISERICORDIA AND MARYWOOD COLLEGE

Please consult Graduate School Office of the respective college.

GENERAL INFORMATION

The University of Scranton, the oldest Catholic institution of higher education in Northeastern Pennsylvania, was founded in 1888 as Saint Thomas College. It is chartered under the laws of the Commonwealth of Pennsylvania and empowered to confer Bachelor's and Master's degrees in the Arts, Sciences, Business Administration and Education. In 1938 Saint Thomas College became the University of Scranton, while four years later the Society of Jesus acquired title from the Catholic Diocese of Scranton and administrative control from the Brothers of the Christian Schools. Thus Scranton became the twenty-fourth of the twenty-eight Jesuit colleges and universities in the United States.

In 1950 graduate study in Education was initiated, the first Master's degree being awarded in June, 1952. Since that time more extensive programs were developed in Elementary Education, Psychology and Guidance, Educational Administration. Through courses at the University's Graduate School several State Certificates may be obtained. A graduate History program was first offered in 1955, while graduate curricula in English and in Business Administration are of 1960 origin. Graduate programs in Chemistry and Physics began in the Fall of 1967.

The University of Scranton Graduate School offers programs of study leading to the following degrees: Master of Business Administration; Master of Arts or Master of Science degree in English, American History and Politics, Chemistry and Physics. In addition a Master of Arts or a Master of Science degree program may be selected in any of the following areas: Elementary and Secondary Education, Elementary and Secondary School Administration, Counselor Education, Reading, Rehabilitation Counseling and Vocational Adjustment. A program of study can be developed by the student correlating a M.S. program in Secondary Education with Business, English, History, Mathematics, Reading, General Science, Chemistry or Physics.

Students in the M.A. program in History and English have the option of a thesis or non-thesis program; those in the M.A. program in Education, Chemistry and Physics are required to complete a thesis.

OBJECTIVES

As one of the family of world wide Jesuit Colleges and Universities, the University of Scranton shares with them a common educational heritage and tradition. Its principal objective, therefore, is:

to lead the student to understand and to inspire him to fulfill that complex of dignities and responsibilities which Man is, as a person and as a member of human society, under God.

Specifically, as the university in this community, the University of Scranton labors to prepare its students to be thoughtful, active, effective citizens with a developed sense of leadership and a dedicated spirit of community service in the arts and professions.

More particularly, the Graduate School of this University aims 1) to communicate, interpret, intensify and integrate academic knowledge and relationships; 2) to develop professional attitudes, skills and competence in the student's chosen area of concentration; 3) to foster those value judgments so basic to human life and education—values which flow not only from a given discipline but also from Christian revelation and the Judaeo-Graeco-Roman, Western moral and intellectual tradition; 4) to promote research.

ORGANIZATION AND LOCATION

The administration and supervision of the Graduate School is the responsibility of the Dean of the Graduate School. He is assisted by a Graduate Advisory Committee, of which he is chairman. All questions concerning admission, candidacy and comprehensive examinations or modifications of course programs, must be submitted in writing to the Dean of the Graduate School. Decisions of the Dean of the Graduate School and his Advisory Committee are final.

Requests for admission, transcript, letters to draft boards and data concerning academic records should be made to the Graduate Office, University of Scranton.

The office of the Dean of the Graduate School is Room 310, St. Thomas Hall, Monroe & Linden Street. The office is open daily from 8:30 a.m. to 4:30 p.m. Monday through Friday. When classes are in session it is also open in the evenings and on Saturday mornings. **FOR STUDENTS WHO WISH TO CONSULT THE DEAN THE COURTESY OF CALLING FOR AN APPOINTMENT IS RECOMMENDED.**

There are three regular semesters of graduate courses: Fall, Spring and Summer. Fall and Spring graduate courses are taught each evening, except Friday, at Monroe & Linden Street from 7:00 to 9:00 P.M. and on Saturdays from 9:00 A.M. to 1:00 P.M. During the Summer term, graduate classes are scheduled Monday through Thursday for six weeks.

An Intersession Program is held between the Fall and Spring Semesters. Please consult the special bulletin issued in December regarding the details of this session.

Graduate courses in the M.B.A. program are taught at O'Hara Hall, Linden St. and Jefferson Avenue.

Time schedules for each course appear in the special bulletins published four times each year for Fall, Interession, Spring and Summer programs, and can be obtained at the Graduate School Office.

COLLEGE MISERICORDIA

According to a cooperative agreement for graduate programs, the University of Scranton Graduate School and College Misericordia, Dallas, Pa., will offer several courses during the Summer, Fall and Spring Semesters on the campus of College Misericordia. During the summer sessions, classes will be conducted on the same time schedule as the U. of S.. During the Fall semester and the Spring term the classes will be scheduled on Saturdays from 9 A.M. to 1 P.M.

Application for admission to graduate study must be made to the University of Scranton. The faculty will be members of the cooperating schools. Credits are granted by the University of Scranton. Up to fifteen credits toward the M.A. or M.S. degrees may be acquired at College Misericordia while the remaining credits must be obtained at the University of Scranton. Charges at the cooperating schools are identical. So also are the candidacy and comprehensive examinations, course numbering, content and credits, curriculum and departmental requirements. Courses at both Scranton and Dallas are open to men and women.

MARYWOOD COLLEGE

Through a cooperative arrangement with Marywood College, graduate students at the University of Scranton who wish may enroll in graduate courses offered at Marywood College. Students should consult with their mentors regarding details and to secure their written permission before registering for such courses. Registration for said courses will be handled by the staff of Marywood College.

APPLICATIONS

All planning to enter the Graduate School should contact the Graduate Office for an application form. Completed applications, together with transcripts of undergraduate and graduate work taken elsewhere, should be in the Graduate Office two months before the applicant begins graduate study. **FOREIGN STUDENTS SHOULD ALLOW AT LEAST THREE MONTHS.**

Admissions standards and policy of the University are free of discrimination on grounds of race, color and national origin. The University recognizes both its legal and moral obligations to fulfill the regulations of Title VI of the Civil Rights Act of 1964 and to conform to all applicable laws and regulations.

ADMISSION STATUS

1. *Regular Admission.* Students admitted to graduate study after meeting the general requirements of the Graduate School and those of the Department in which they are to enroll. CLASSIFICATION: DEGREE STUDENT.

2. *Provisional Admission.* Students admitted to graduate study under this category must, in addition to meeting the regular requirements, satisfactorily complete additional conditions before they can be raised to Candidacy status. CLASSIFICATION: DEGREE STUDENT—PROVISIONAL.

3. *Probational Admission.* A student may be admitted on a probational basis under certain circumstances. If admitted, this means that upon completion of nine graduate credit hours, the credentials and the current work of the student are reviewed. At this point it is then determined whether or not the student will be allowed to continue as a degree student. CLASSIFICATION: DEGREE STUDENT—PROBATIONAL.

4. *Special Student.* Students in this category are restricted to graduate study for the following purposes: certification only, transfer of credit, or self-improvement. Students so classified are not considered degree candidates unless the student presents his request to become a degree candidate in writing to the Graduate School and receives subsequently the approval of the Admissions Committee. CLASSIFICATION: SPECIAL STUDENT.

Admission to graduate study, under any circumstances, does not imply admission to candidacy for an advanced degree.

ENGLISH LANGUAGE REQUIREMENT—FOREIGN STUDENTS

Students who are citizens of non-English-speaking countries will be required to complete a review course in English. This course is specifically designed for international students who already possess a working knowledge of the English language. It is not designed for the student who has not had any previous training in the English language.

In addition to a basic English review, the course will familiarize the international student with the technical language necessary for the advanced program in which he has enrolled.

International students who present a TOEFL (Test of English as a Foreign Language) score will be considered for waiver of the English course requirement. However, this waiver is based on individual interpretation of the TOEFL score, and not on a minimum achieved score.

REGISTRATION FOR COURSES

Registration for each semester will take place according to the schedules listed in the special bulletins which are issued prior to each semester. Mail registration is permitted after the initial acceptance and registration. Registration will be with the approval of a student's mentor or chairman of the department. A student may not drop or transfer from a course in which he is registered without the approval of his mentor and the Dean.

In order to facilitate registration for old and new students a period of pre-registration is held each semester. This will extend over a period of about 10 days and all graduate students taking courses during the current semester must register between the announced dates. Those who do not register and have an insufficient excuse will be charged a late registration fee of \$15.

The University reserves the right to withdraw a course from its schedule in which less than ten students have been registered.

Undergraduate students may register for certain graduate courses. However, it is required that they have approval of the appropriate Department Chairman and the permission of the Dean.

CANDIDACY

The student is not considered a candidate for a degree until he fulfills the following requirements:

1. Completes successfully at least nine semester hours of course credit at the University of Scranton.
2. Files a formal application for degree candidacy with the Dean.
3. Is approved by the department in the field of his major concentration according to departmental norms.

MENTORS

From the inception of graduate study, students will be assigned a mentor to help them formulate a program of studies and supervise their work. It is suggested that students work closely with their mentors and that the courtesy of arranging appointments in advance with faculty members so designated be observed by all students.

GRADES

Achievement of Graduate Students is recorded as *A—excellent; B+—superior; B—good; C—fair but passing; F—failure*. To insure qualitative standards a student incurring 4 "C"s or 3 "C"s and an "F" ceases to be a candidate for a degree but may continue to take courses for information, self-improvement or credit. A student who fails any two courses will be automatically dismissed and so notified by mail.

Papers, reports and assignments should be rendered promptly, and permission of the professor is required for deferral of such work. Given an extension, the student should submit all required work no later than one month after the end of the semester. Failure to complete the work within the stipulated time results in automatic conversion of the "Incomplete" to failure (F).

Regular attendance at class is considered a requisite for successful completion of a course.

TIME LIMIT

All graduate work including the thesis must be completed within six consecutive years. Time spent in the armed forces is not included in the six year period. Extension of this time restriction may be granted for valid reasons at the discretion of the Dean.

INSTITUTES

From time to time the University conducts special programs for teachers-in-service. Graduate or undergraduate credit may be gained by successful work in the programs, but in the case of the graduate student, no more than twelve credits of the advanced degree work may be earned in the institutes.

TRANSFER OF CREDITS

After a student has acquired candidacy status he may request that approved graduate work previously completed at other institutions be accepted as partial fulfillment of graduate course requirements here. This will be granted only under the following conditions:

1. That such credits were acquired in residence at the other institution. Extension credits are not acceptable.
2. That only six (6) credits maximum be transferred.
3. That courses to be transferred parallel courses here and mesh with the student's program at the University of Scranton.
4. That these credits were taken within six (6) years of the student's admission.
5. That a grade of B or better was acquired in these courses and that an official transcript is submitted for work at other institutions, including the course description of the credits in question.

Students matriculated at the University of Scranton may follow courses at other approved graduate schools, and transfer credits only with the previous permission of their mentor and the Dean of the Graduate School.

COMPREHENSIVE EXAMINATIONS

Before a Master of Arts or Master of Science degree is awarded, the candidate must pass a comprehensive examination in his graduate course work. This examination may be either oral, written or both. Eligibility for admission to the examination is determined by the student's mentor with the approval of the Department Committee. This examination will be given only on the dates published in the graduate catalogue. Application forms are obtainable at the Graduate School Office.

Several weeks before the examination date, the candidate should consult his mentor for a general explanation of the topics to be covered in the examination and file an application for the examination.

Candidates failing the comprehensive examination for the second time will not be considered for the advanced degree.

The results of the comprehensive examination will be forwarded to the candidate by mail.

THESIS

Candidates for the Master of Arts degree in Education, English, History, Physics or Chemistry must present a thesis, completed under the active supervision of the candidate's mentor and approved by one additional reader. In case of doubt, a third reader may be required. In the preparation of the thesis, style regulations prescribed by the Graduate School will be observed. Two copies of the accepted thesis must be submitted to the Graduate School Office on or before the date indicated in the university calendar.

SUMMARY

The following procedures are to be followed by students working for the advanced degree:

1) File an application for admission to graduate study, official transcripts of undergraduate preparation and of graduate credits taken elsewhere, and supporting recommendations.

2) Meet with their mentor to organize a program of studies in the major course concentration selected and confirm the program at each registration period.

3) Apply for candidacy for the degree by fulfilling requirements.

4) Complete core, specific major and elective courses.

5) Complete the required thesis if applicable.

6) Successfully pass the required comprehensive examination.

7) Make formal application to the Graduate office for the degree.

ALUMNI MEMORIAL LIBRARY

The library is located on the Scranton Estate. It contains more than 138,000 bound volumes, with over 850 literary, scientific and professional periodicals currently received. Microfilm, micro fiche, and micro card reading equipment is available, as well as, inter-library loan.

The library is open daily during the Fall and Spring Semesters from 8:30 A.M. to 11:00 P.M., Monday to Thursday; 8:30 A.M. to 5:00 P.M. on Friday; 9:00 A.M. to 5:00 P.M. on Saturday. During the Summer Semester the hours are the same with the exception of a 9:00 A.M. opening hour each day. The library is open on Sundays from 3:00 to 9:00 P.M. These hours are subject to change.

COUNSELING AND PLACEMENT

The University's counseling and placement services are available to graduate students. The Counseling Center is located in St. Thomas Hall, Room 401 and the Placement Office in Room 402. All offices are open on weekdays from 8:30 A.M. to 4:30 P.M. and at other times only by appointment.

In addition, there is an Advanced Study Office to serve students anticipating further graduate work, and for foreign students an Inter-National Student Advisor is available.

FINANCIAL AID

Graduate teaching assistantships are available in each department offering graduate programs. Departments also award fellowships and assistantships to graduate students who aid in a variety of departmental duties, including assisting in faculty research. Traineeships are available for those students in the Rehabilitation Counseling program; aid is also provided for those enrolled in the Vocational Adjustment program through the Professional Education Program of the State of Pennsylvania. Information and application forms for the assistantships, fellowships, and traineeships may be obtained from the Dean of the Graduate School.

Resident assistantships are offered to single male graduate students, providing room and board in the university's dormitories. Applications may be secured from the Student Personnel Office.

In addition, loan programs for graduate students and a number of campus jobs through the Work-Study program are offered. Inquiries regarding loan and Work-Study programs should be directed to the Financial Aid Office.

CAMPUS HOUSING

Limited housing is offered for single male graduate students in the ten modern university dormitories. Room and board for one semester on the two-meal plan is \$455.00 and on the three-meal plan is \$515.00. Assistance is provided in locating suitable housing for men and women who prefer to reside off-campus.

PHYSICAL EDUCATION CENTER

The use of the John J. Long Center is provided for graduate students at a cost of \$7.00 per semester. Facilities are provided in the physical education building, for all indoor sports such as basketball, handball, weight lifting. A physical therapy room and sauna bath are also housed in the structure.

COMPUTING CENTER

The Sigma 5 Xerox Data System, located in the Computing Center, is available for use by graduate students conducting research and programming functions in this area.

HONOR SOCIETIES

Chapter organizations of several national honor societies are maintained at the University of Scranton campus. Graduate students can be selected for membership in the following: Alpha Sigma Nu, international Jesuit honor society; Phi Delta Kappa, education; Phi Alpha Theta, national honor society in history; Delta Mu Delta, business administration honor society; Sigma Pi Sigma, physics honor society and Omicron Delta Epsilon, national honor society in economics. Contact the chapter officers for further information regarding membership.

RESERVE OFFICERS' TRAINING CORPS PROGRAM (ROTC)

University of Scranton graduate school students are encouraged to consider enrolling in the ROTC program. Students who successfully completed the ROTC Basic Course as undergraduates would participate in the Advanced Course to include a six-week summer camp at the end of their first year of graduate school. Students who did not enroll in or complete the Basic Course as undergraduates would be required to attend a six-week basic summer camp prior to being accepted in the Advanced Course.

Upon completion of graduate school, students would be commissioned as Second Lieutenants in the United States Army and would have an active duty obligation of two years. Graduate school students are deferred from the draft while enrolled in the ROTC program.

Interested students should contact the Professor of Military Science in Room 104, Saint Thomas Hall.

EXPENSES GRADUATE SCHOOL

Tuition (per semester hour of credit)\$53.00

Fees —

Admission Fee 10.00

Library Fee (per semester) 5.00

Science Lab Fee 30.00

Late Registration 15.00

Prerequisite Challenge Examination Fee 30.00

Audio-Visual Aids Fee 5.00

Binding of Thesis 20.00

Graduation Fee 30.00

Unless explicitly stated otherwise, tuition and fees are for one semester and are payable at registration.

Students will not be permitted to receive any degree, certificate, or transcript of record until their financial accounts with the University have been satisfactorily settled.

REFUNDS

No refunds may be demanded as a matter of right when a student leaves the University without completing the semester in which he was engaged. If, however, his withdrawal is authorized by the Dean for a good cause and if he is entitled to an honorable dismissal, he may request in writing a refund of tuition. Fees are not refundable.

The following refund scheduled will be applied to approved cases:

| <i>Date of Notification of Dean</i> | <i>Refund</i> |
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FALL SEMESTER, 1972

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| To September 14 | 80% |
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| To September 21 | 60% |
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| To September 28 | 40% |
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| To October 5 | 20% |
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| Beyond October 5 | No refund |
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INTERSESSION, 1973

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| End of First Week | 80% |
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| End of Second Week | 40% |
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| Beyond Second Week | No refund |
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SPRING SEMESTER, 1973

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| To February 12 | 80% |
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| To February 19 | 60% |
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| To February 26 | 40% |
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| To March 2 | 20% |
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| Beyond March 2 | No refund |
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SUMMER SEMESTER, 1973

| | |
|--------------------------|-----------|
| End of First Week | 80% |
| End of Second Week | 40% |
| Beyond Second Week | No refund |

DEPARTMENT OF EDUCATION

Dr. Lawrence J. Lennon, Chairman

DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental Committee on Admissions with evidence of satisfactory undergraduate preparation to achieve graduate work of good quality. The Departmental Admissions Committee will consider each application toward this end.

The Admission Committee will also consider the academic and personal traits of each applicant in relation to his potential for satisfactory achievement in graduate study.

With the exception of rehabilitation counseling and counselor-education majors, the applicant will have completed the ordinary state requirements for certification as a teacher; of those seeking a masters' degree, a B average in undergraduate Education courses is expected. If undergraduate course preparation in Education or the general or liberal studies is deficient as determined by the Admissions Committee, the student will correct the deficiency before he applies for candidacy for the advanced degree.

Specific requirements for entrance into certain major concentrations are in addition to the admissions requirements to graduate study in Education at the University. These are described in the sections on Course Concentrations.

CANDIDACY

It is the responsibility of the student to fulfill all candidacy requirements. His acceptance as a graduate student in a given major requires that he fulfill the following requirements:

1. File a formal application for candidacy with the Dean of the Graduate School.
2. Pass all courses required for candidacy with a mark of B in each course. He will only be allowed to repeat any course once. (See requirements of each major).
3. Is approved by the Department in the field of his major concentration according to Departmental norms.

THE MASTER OF ARTS DEGREE

Thirty semester hours credit are needed for the M.A. degree. Nine of these will be in Education 202, 205, 206 or 207. Of the remaining twenty-one, three credits are allowed for the successful completion of a thesis, a requirement of the Master of Arts degree.

At the time of candidacy for the degree, the candidate's mentor, in co-operation with the student will plan a program of studies which together with the thesis, will provide a sound treatment of some area of interest. As a result of intensive work in this area, his study should be marked by sound mastery and technical accuracy. The M.A. program may entail requirements prescribed by the mentor, including those essential courses consistent with sound scholarship. The mentor's judgment in this matter is final.

The thesis required for the M.A. degree may be a research paper of suitable dimensions, a critical report of certain procedures or sectors of knowledge, or a scholarly biographical work on the Master's level.

The student with the permission of the mentor will register for a seminar while working on his thesis.

THE MASTER OF SCIENCE DEGREE

Thirty semester hours or more of course credit are usually required for the M.S. degree. In the Rehabilitation Program, however, 57 graduate credits may be required depending on the applicant's undergraduate major and appropriate employment experience, as determined by Departmental norms. For the M.S. there is no thesis requirement, but a scholarly paper must be presented to the mentor 60 days before graduation. The student may seek the Master of Science degree in any one of the concentrations indicated hereafter.

Before registration the graduate student will meet with his advisor for the selection of a concentration of courses, and the approval of his program of studies. About one half of the course requirements for the Secondary Education program will be in a subject-matter field.

While the candidate's courses within a concentration should possess flexibility, certain essential courses are required. The advisor may make substitutions in order to round out a sound program of courses, and in this matter his judgment is final.

THE COMPREHENSIVE EXAMINATION

A comprehensive examination as prescribed by the student's mentor is required of all candidates for a degree in education. This examination may be written, oral or both.

MAJOR COURSE CONCENTRATIONS



SECONDARY EDUCATION

Dr. Matthew C. Farrell, Director of Graduate Program

Objective: To prepare the secondary school teacher in-service for more effective instruction of students.

| <i>Required courses:</i> | <i>Semester Hours</i> |
|---|-----------------------|
| Education 202 Educational Research and Literature | 3 |
| Education 205 Historical and Philosophical Bases of Education I | 3 |
| Education 206 Historical and Philosophical Bases of Education II | 3 |
| Education 233 Curriculum Theory and Development | 3 |
| Education 234 Improvement of Instruction in the Secondary School | 3 |
| Education 272 Human Development and Learning | 3 |

Subject Matter Courses

No less than 15 semester hours in one of the following subject fields:

Business
Chemistry
English
History and Political Science
Mathematics
Physics
Reading
Science

Requirements for Candidacy:

Before applying for candidacy, the student will successfully complete all required courses in part I, *Foundations of Education* and one course in part II *Required Courses*; or no less than 12 semester hours of credit.

COUNSELOR EDUCATION

Dr. James J. Cunningham, Director of Graduate Program

Objectives: The preparation of secondary school counselors.

Certification as a School Counselor: Students who desire to apply for the Pennsylvania school counselor's certificate must follow the certificate sequence as approved by his advisor, and receive the master's degree.

Only students of proven competency who have successfully completed the certificate sequence and degree requirements will be endorsed for certification by the University.

Students who are not interested in secondary-school counseling may substitute certain other courses directed toward other objectives. Course selection will be made in conference with the student's advisor.

Major Concentration Entrance Requirements:

These requirements for entrance into the Counselor Education major are in addition to the entrance requirements of the Graduate School:

- (1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential,
- (2) A written, self-estimate of the candidate's qualifications for the job of the counselor,
- (3) A personal interview.

Core Courses for Candidacy:

Semester Hours

| | | |
|---------------|------------------------------------|---|
| Education 202 | Research and Literature | 3 |
| Education 240 | Foundations of Guidance | 3 |
| Education 241 | Group Counseling Methods | 3 |
| Education 253 | Measurement and Evaluation I | 3 |

Other Required Courses

Semester Hours

| | | |
|-----------------|--|---|
| Education 242 | Counseling Interview Techniques | 3 |
| Education 243 | Current Issues in Counseling and Guidance | 3 |
| Education 244.1 | Supervised Counseling Experience | 3 |
| Education 244.2 | Supervised Counseling Experience | 3 |
| Education 246 | Occupational Educational and Social Information | 3 |
| Education 254 | Evaluation and Appraisal II | 3 |
| Education 274 | Developmental Psychology | 3 |
| Education 275 | Psychology of Adjustment | 3 |

ELECTIVES

| | | |
|---------------|---|---|
| Education 207 | The Sociology of Education | 3 |
| Education 262 | Learning Theories | 3 |
| Education 263 | Contemporary Theories of Personality | 3 |
| Education 268 | The Education of Exceptional Children | 3 |
| Sociology 404 | Cultural Anthropology | 3 |
| Sociology 406 | Community Organization | 3 |
| Sociology 413 | Juvenile Delinquency | 3 |
| Sociology 411 | Urban Sociology | 3 |
| Sociology 414 | American Minority Groups | 3 |

Master's Degree:

Thirty-six semester hours of credit are required for the Master's degree.

ELEMENTARY EDUCATION

Dr. Michael Marino, Director of Graduate Program

Objective: To prepare the elementary school teacher in-service for more effective instruction of students, and to help him acquire the skills and values to become a self-renewing teacher.

Core Courses - 9 credits - Ed. 202 required *Semester Hours*

| | | | |
|---------------|--|---|---|
| Education 202 | Educational Research and Literature | 3 | 3 |
| Education 205 | Historical and Philosophical Bases of Education I | 3 | 3 |
| Education 206 | Historical and Philosophical Bases of Education II | | 3 |
| | or | | |
| Education 207 | Sociology of Education | | 3 |

Related Courses - 6 credits

| | | | |
|---------------|---|---|---|
| Education 230 | Elementary School Curriculum | | 3 |
| Education 231 | Improving Instruction in the Elementary School | 3 | 3 |
| Education 272 | Human Development and Learning | 3 | 3 |

Specialization Courses (15 credits - Ed. 282 required)

| | | | |
|-----------------|--|--|---|
| Education 253 | Evaluation and Appraisal I | | 3 |
| Education 281 | Language Arts in Pre-School Education | | 3 |
| Education 282 | Introduction to Developmental Reading | | 3 |
| Education 283 | Children's Literature in the Elementary School.... | | 3 |
| Education 284 | Seminar in the Language Arts: Reading, Writing, Speaking, and Listening | | 3 |
| Education 285 | The Analysis of Research Studies in the Language Arts | | 3 |
| Education 286 | Selected Problems in Elementary School Mathematics | | 3 |
| Education 286.1 | Seminar in Elementary School Mathematics | | 3 |
| Education 287 | Selected Problems in Elementary School Social Studies | | 3 |
| Education 287.1 | Seminar in Elementary School Social Studies | | 3 |

| | | |
|-----------------|--|---|
| Education 288 | Selected Problems in Elementary School | 3 |
| Education 288.1 | Seminar in Elementary School Science | 3 |
| Education 289 | Workshop in Elementary Education | 3 |
| Education 292 | Prevention and Detention of Reading Disabilities.. | 2 |
| Education 293.1 | Diagnosis of Reading Disabilities | 3 |
| Education 295 | Instructional Material and Resources | 2 |
| Education 300 | Directed Study: Elementary Education | 3 |

Requirements for Candidacy:

Before applying for candidacy, the student will successfully complete the required *core courses* and either Education 230 or 231, or no less than 12 semester hours of credit.

Elementary Education students may elect to be graded either by the traditional marking system or by the pass-fail system in selected courses. The traditional marking system is described in the beginning section of this catalogue. The pass-fail system is as follows: P means average or above-average achievement (P replaces A, B+ and B of the traditional marking system), C, I, and F are the other symbols used and mean the same in both systems.

The instructor designates whether his course is to be selected for student choice of marking systems, and in those selected courses, the student registers his choice of marking system with the instructor at the beginning of the semester.

ADMINISTRATION

(Elementary and Secondary)

Dr. Carleton Upright, Director of Graduate Program

Objectives: The preparation of elementary and secondary school principals.

Major Concentration Entrance Requirements:

These requirements for entrance into the Administrative major are in addition to the entrance requirements of the Graduate School:

- (1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential.
- (2) A written self-estimate of the candidate's qualifications for the position of principal.
- (3) A personal interview.

Core Courses for Candidacy:

Education 202 Research and Literature
Education 205 Historical & Philosophical Foundations I
Education 221 Educational Administration

The Master's Degree:

A student will be recommended for a Master of Science degree in School Administration when he has satisfactorily completed the seven courses required in Phase I and Phase II, four courses from Phase III and IV as approved by his mentor, passed a Comprehensive Examination in School Administration, and filed an approved scholarly paper sixty days prior to graduation.

Certification as a Principal:

Upon completion of the 15 courses or 45 credits (including Ed. 225 and Ed. 235) provided in Phases I through IV, a candidate may be endorsed by the University of Scranton to the Pennsylvania Department of Education for certification as a Secondary School Principal.

Upon completion of the 15 courses or 45 credits (including Ed. 223 and Ed. 232) provided in Phases I through IV, a candidate may be endorsed by the University of Scranton to the Pennsylvania Department of Education for certification as an Elementary School Principal.

A master's degree in Administration is required for either or both certificates.

Phase I - Four Courses - Ed. 202, Ed. 205 and Ed. 221 required.

- Ed. 202 Educational Research and Literature
- Ed. 205 Historical & Philosophical Foundations of Education I
- Ed. 206 Historical & Philosophical Foundations of Education II
- Ed. 207 Sociology of Education
- Ed. 221 Educational Administration

Phase II - Three Courses - Ed. 233 required.

- Ed. 223 The Elementary School Principal as Administrator
- Ed. 225 The Secondary School Principal as Administrator
- Ed. 226 Administration and Organization of the Middle School
- Ed. 232 The Elementary School Principal as Supervisor
- Ed. 233 Curriculum Development and Theory
- Ed. 235 The Secondary School Principal as Supervisor

Phase III - Three Courses - elective

- Bus. 244 Labor Management Problems
 - Bus. 246 Management of Human Resources
 - Ed. 240 Foundations of Guidance
 - Ed. 241 Group Processes
 - Hist. 208 - 209 The American Heritage
 - Hist. 212 - 213 Development of American Civilization
 - Pol. Sci. 407 - Public Administration
 - Soc. 406 - Community Organization
 - Soc. 411 - Urban Sociology
 - Soc. 414 - American Minority Groups
- } *Maximum of
two courses
from this
group.*

Phase IV - Five Courses - elective.

- Ed. 222.1 Problems in School Administration & Supervision
- Ed. 222.2 Public Relations for School Principals
- Ed. 222.3 Personal Management for School Principals
- Ed. 222.4 School Finance Problems for the School Principal
- Ed. 222.5 School Plant Management for the School Principal
- Ed. 222.6 School & Community Relations for the School Principal
- Ed. 222.7 Practicum in School Administration

READING

Objectives: To prepare reading specialists and reading supervisors, K through 12. Courses in this area are also of value to majors in other divisions.

Graduate students in Elementary Education and in Secondary Education may take a correlate in Reading, after consultation and approval of both the Director of the Reading Program and their mentor.

Core Courses for Candidacy:

Education 202 Research and Literature

Education 291.1 Foundations of Reading Instruction - Elementary
or

Education 291.2 Foundations of Reading Instruction - Secondary

Education 292 Prevention and Detection of Reading Difficulties
or

Education 295 Instructional Materials and Resources

Before applying for degree candidacy, the student must successfully complete Education 202; 291.1 or 291.2; 292 or 295.

CERTIFICATION PROGRAMS IN READING

Reading Specialist:

Permission to register for graduate courses and certification to teach in Pennsylvania are required. Students who desire recommendations from the University of Scranton for this certificate must complete the requirements for the Master's Degree. When competencies in any of these courses are demonstrated, orally and through a written examination, such courses may be waived. A minimum of 12 credits, six in practicum and six in academic courses, will be required by those who have demonstrated such competencies.

Reading Supervisor:

Permission to register for graduate courses; the demonstration of competencies in areas of reading in the master's sequence; certification as a reading specialist; and the completion of these additional courses are required for certification as Reading Supervisor.

Education 293.2 Clinical Diagnosis; Education 297, Administration and Supervision of Reading Program; Education 298, Practicum for Reading Supervisors, as well as three to nine hours from electives will be scheduled for this certificate.

| I. <i>Courses Required for Master's Degree:</i> | | <i>Semester Hours</i> |
|---|--|-----------------------|
| Education 202 | Educational Research | 3 |
| Education 253 | Evaluation & Appraisal I | 3 |
| Education 262 | Theories of Learning | 3 |
| Education 272 | Human Growth and Development (or) | 3 |
| Education 274 | Developmental Psychology | 3 |
| Education 291.1 | Foundations of Reading Instruction - Elementary | 2 |
| Education 291.2 | Foundations of Reading Instruction - Secondary.. | 2 |
| Education 292 | Prevention and Correction - Reading Disabilities | 2 |
| Education 293.1 | Diagnosis - Classroom Techniques | 3 |
| Education 294.1 | Reading - Internship - Elementary | 2 |
| Education 294.2 | Reading - Internship - Secondary | 2 |
| Education 295 | Instructional Materials | 2 |
| Education 296 | Organization & Operation of Reading Program.... | 3 |

II. *Suggested Electives*

| | |
|-------------------|---|
| Education 205-206 | Philosophical & Historical Bases of Education I & II |
| Education 207 | Sociology of Education |
| Education 233 | Curriculum Development and Theory |
| Education 241 | Group Methods in Counseling |
| Education 268 | Education of Exceptional Children |
| Education 283 | Children's Literature for the Elementary School |
| Education 285 | The Analysis of Research Studies in Language Arts |
| Education 299 | Reading, The Denied Learner, and The Environment |

REHABILITATION COUNSELING

Dr. Joseph A. Szuhay, Director of Graduate Program

Objective:

To prepare rehabilitation counselors and related professional personnel.

Candidacy Requirement:

Before applying for degree candidacy, the student will successfully complete the following courses:

- R.C. 301 Introduction to Rehabilitation Services
- R.C. 320 Rehabilitation Counseling
- Educ. 253 Evaluation and Appraisal I

Fall Semester (first)

Semester Hours

| | | |
|-----------|---|---|
| R.C. 301 | Introduction to Rehabilitation Services | 3 |
| R.C. 310 | Human Dynamics | 3 |
| R.C. 311 | Psycho-Social Problems | 3 |
| Educ. 246 | Occupational, Educational and Social Information | 3 |
| Educ. 253 | Evaluation and Appraisal I | 3 |

15

Spring Semester (second)

| | | |
|-----------|---|---|
| R.C. 320 | Rehabilitation Counseling | 3 |
| R.C. 312 | Mental Health and Mental Retardation | 3 |
| R.C. 302 | Guided Field Experience in Rehabilitation | 3 |
| R.C. 321 | Group Processes | 3 |
| Educ. 254 | Evaluation & Appraisal II | 3 |

15

Summer Session - Optional for full time students.

Fall Semester (third)

| | | |
|----------|---|---|
| R.C. 313 | Medical and Psycho-Social Aspects of Disability | 3 |
| R.C. 330 | Vocational Evaluation and Behavior Modification | 3 |
| R.C. 340 | Principles and Problems in Supervision | 3 |
| R.C. 360 | Practicum in Rehabilitation Counseling | 3 |

Choice of:

| | | |
|-----------|--|---|
| Educ. 202 | Educational Research | 3 |
| Educ. 290 | Research Seminar | 3 |
| R.C. 350 | Directed Study in Rehabilitation | 3 |

15

Spring Semester (fourth)

| | | |
|----------|--|--------------------------------|
| R.C. 361 | Internship in Rehabilitation Counseling | (variable credit - 12 maximum) |
|----------|--|--------------------------------|

VOCATIONAL ADJUSTMENT

Dr. Joseph A. Szuhay, Director of Graduate Program

Objective: The preparation of personnel for the field of vocational adjustment services.

Candidacy Requirement:

(Same as for Rehabilitation Counselor)

PROGRAM

The student will enroll for the same courses as required for the Rehabilitation Counselor with two exceptions: He will substitute:

VOAD 360 - Practicum in Vocational Adjustment

VOAD 361 - Internship in Vocational Adjustment
for R.C. 360 and R.C. 361.

ART EDUCATION

Sr. Mary M. McLaughlin, Ed.D., R.S.M.,
Director of Graduate Program

Prerequisite:

Undergraduate Degree in Art or Art Education and Certification to teach Art.

Objective:

To prepare the art teacher in-service for research, administration and supervision of art programs and to develop organizational ability in the designing of the art curriculum.

Thesis Requirement:

A suitable thesis as defined by the student's mentor is required for the degree, M.A. in Art Education.

Candidacy Requirement:

Before applying for candidacy, the student will successfully complete 12 semester hours of part I, Core Courses.

I. *Required Courses* *Semester Hours*

| | | |
|---------------|---|---|
| Education 202 | Educational Research & Literature | 3 |
| Education 205 | Historical and Philosophical | |
| 206 | Bases of Education I and II | 6 |
| Education 221 | Educational Administration | 3 |
| Education 233 | Curriculum Theory & Development | 3 |

II. *Art Education*

| | | |
|---------------|------------------------------------|---|
| Education 289 | Art in the Elementary School | 3 |
| Education | Art in the Secondary School | 3 |
| Education* | Art for Special Education | 3 |
| Education | Independent Study | 3 |
| Education* | Psychology of Art | 3 |

Art

| | |
|---------------------------|-----|
| Advanced Studio Art | 3-6 |
| Independent Study | 3 |
| *Art History | 3 |

30-33

Education - 15 semester hours

Art Education - 12 semester hours

Art Thesis - 3-6 semester hours

* - elective

COURSE DESCRIPTIONS

FOUNDATIONS OF EDUCATION

Education 202. *Educational Research and Literature* 3 credits

This is a basic course concerned with the nature of research problems. Predictive studies, surveys and experimental designs are treated with the objectives of critical appraisal by the student and as a help to him in initiating his research project, which is to be developed with his faculty advisor.

Education 205. *Philosophical and Historical Bases of Education I* 3 credits

This course considers in the tradition of philosophy the fundamental problems of the nature of man, the child, the parent, the school, and society. The aims of education in society and their consequences in rights and duties are the most salient problems.

Education 206. *Philosophical and Historical Bases of Education II* 3 credits

The second course studies the history of education formally. After a brief overview of the classical, patristic, and medieval periods, major attention is given to education in the twentieth century, especially in the United States.

Education 207. *The Sociology of Education* 3 credits

The sociology of education is oriented toward understanding the social influences on learning. The socialization of the child, social structure in American society, social mobility, the school as an agency of socialization, social problems especially germane to the school such as delinquency, population and racial integration, the social role of the teacher, the school and its sociological environment will be the areas of special concern.

ADMINISTRATION

Education 221 - *Educational Administration* 3 credits

A foundations course in general school administration, involving philosophical bases, organization in a democratic society, administration of instruction and personnel. Required of all students beginning a major in educational administration and a prerequisite for other courses in educational administration.

Education 222.1 - *Problems in School Administration and Supervision* 3 credits

A seminar course for those seeking elementary and secondary school principal's certification. Emphasis is placed upon intensive investigation of selected problem in administration and supervision. (Prerequisites: Ed. 223 and 232 or Ed. 221 and 325).

Education 222.2 - *Public Relations for School Principals* 3 credits

An introduction to school public relations. Emphasis is focused upon the principal's role in establishing contact between schools and the general public through the use of mass media.

Education 222.3 - *Personal Management for School*

Principals

3 credits

An overview of the principal's role in the establishment and performance of personnel policies as they relate to recruitment, selection, orientation, deployment, promotion, evaluation, in-service development, morale, dismissal, and teacher-principal relationships. Admission with consent of instructor.

Education 222.4 - *School Finance Problems for the*

School Principal

3 credits

An introduction to public school finance as it relates to the school principal. Emphasis is focused upon the principal's role and responsibilities in handling student funds, district budgeting and accounting, and modern planning - programming - budgetary systems. Admission with consent of instructor.

Education 222.5 - *School Plant Management for the*

School Principal

3 credits

A study of problems involved in the planning, operation, and maintenance of school plant facilities. Emphasis is upon efficient use of existing plant facilities and their possible adaptations to meet modern educational and community needs. Admission with consent of instructor.

Education 222.6 - *School and Community Relations for the*

School Principal

3 credits

A study of the relationship of the school to the community. Emphasis is focused upon the school-community concept, community analysis, community characteristics affecting quality education, and public participation in education planning. Admission with consent of instructor.

Education 222.7 - *Practicum in School Administration*

3 credits

The purpose of this course is to give the student practical experience in administrative work. A minimum of sixty clock hours in one semester must be spent on this work. Work is done under supervision in a local school system according to a definite schedule approved by the instructor and the administrator of the school system involved. Admission by special arrangement. (Offered Fall and Spring semesters only.)

Education 223 - *The Elementary School Principal*

as Administrator

3 credits

A technical course emphasizing the administrative duties and responsibilities of the elementary school principal. Attention is focused on types of organization, program, studies, pupil progress, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 225 - *The Secondary School Principal*

as Administrator

3 credits

A technical course emphasizing the administrative duties and responsibilities of the secondary school principal. Attention is focused on problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Education 221)

Education 226 - *Administration and Organization
of the Middle School*

3 credits

A technical course emphasizing the organizational and administrative duties and responsibilities of the middle school principal. Attention is focused on the problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite, Ed. 221)

CURRICULUM, INSTRUCTION & SUPERVISION

Education 230 - *The Elementary School Curriculum*

3 credits

An investigation of curriculum theory as applied to classroom practice. Students will have an opportunity for serious study of the basic considerations necessary in providing a meaningful teaching-learning environment for children in a changing world.

Education 231 - *Improving Instruction in the
Elementary School*

3 credits

Students will study a wide spectrum of evaluative devices and techniques which are necessary for a comprehensive evaluation of all the objectives of elementary education. Emphasis will be on how to apply the strategies of evaluation in the classroom to improve the curriculum of children.

Education 232 - *The Elementary School Principal
as Supervisor*

3 credits

Methods and techniques in the supervision of the elementary school with the objective of improvement of teaching and learning in terms of modern objectives and methods.

Education 233 - *Curriculum Development and Theory*

3 credits

Principles of curriculum construction which underlie the reorganization of the program of studies for elementary and secondary schools, sources of the curriculum, methods of organization, structure of knowledge, and curriculum planning and development.

Education 234 - *Improving Instruction in the
Secondary School*

3 credits

Secondary general methods with emphasis on current procedures, theories and practices. Such topics as classroom atmosphere, teacher-pupil behavior patterns, teaching skills, pupil-teacher planning, inquiry, communication, logic in teaching and teaching the process of learning. Other topics will be introduced as interest of the group and time allows.

Education 235 - *The Secondary School Principal
as Supervisor*

3 credits

A technical course emphasizing the duties and responsibilities of the secondary school principal in the role of a supervisor of instruction. Attention is focused upon methods and techniques of supervision with the objective of improvement of teaching and learning in terms of modern objectives and methods.

Education 236 - *Audio - Visual Aids in Education* 2 credits
Graphic materials and pictures that can be used in teaching are studied. Picture projection is studied as a regular classroom procedure and objective tests are constructed based upon educational films. Other visual aids stressed include school journeys, object-specimens, models, charts, graphs, diagrams, T.V., maps. Students in the course will be required to complete successfully a prescribed project. This course is required for permanent certification in Pennsylvania. Laboratory fee \$5.00.

Education 237.1 - *Teaching of History and Social Science* 3 credits
A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Education 237.2 - *Teaching of English Literary Types in Secondary Schools* 3 credits
Narrative and lyric poetry types, prose types, and drama. Techniques of methodology and organizational patterns are suggested. Listed under Education courses, this offering is taught by the Department of English as English 238.

Education 281 - *Language Arts in Pre-School Education* 3 credits
The content of this course reflects recent trends in the language arts and how these trends might assist the pre-school child in language development. Special emphasis will be given to those experiences and strategies that can prepare young children for formal schooling. This course is particularly suitable for pre-school teachers and teacher-aides.

Education 282 - *Introduction to Developmental Reading* 3 credits
This course is designed for classroom teachers in the elementary grades who wish to investigate some of the recent theories, practices, techniques and materials of instruction in reading. Major concepts covered in the course are readiness, decoding, comprehension and integration of reading with the other areas of the language arts.

Education 283 - *Children's Literature for the Elementary School* 3 credits
Literature for children from kindergarten through the elementary school years. Children's literary needs and interests will be emphasized.

Education 284 - *Seminar in the Language Arts: Reading, Writing, Speaking and Listening* 3 credits
Focus is on the place of the language arts in the total elementary school curriculum. Topics included are integration of reading, writing, speaking and listening; correlation of these four areas of the language arts with the content subjects; and a consideration of innovative spelling and handwriting programs.

Education 285 - *The Analysis of Research Studies in Language Arts* 3 credits
This course is concerned with a critical analysis of the research evidence in the language arts and an examination of the underlying theoretical issues.

Representative experimental, correlational and clinical studies will be evaluated in terms of their design, statistical tests employed and the relationship between specific findings and general conclusions.

Education 286 - *Selected Problems in Elementary*

School Mathematics

3 credits

Students will study selected topics, problems and recent developments relevant to the elementary mathematics curriculum and instruction.

Education 286.1 - *Seminar in Elementary School*

Mathematics

3 credits

The major emphasis of this seminar will be individual action research projects in elementary school mathematics to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth.

Education 287 - *Selected Problems in Elementary*

School Social Studies

3 credits

Students will study selected topics, problems, and recent developments in the elementary social studies curriculum and instruction.

Education 287.1 - *Seminar in Elementary School*

Social Studies

3 credits

The major emphasis of this seminar will be individual action research projects in the social studies to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth.

Education 288 - *Selected Problems in Elementary*

School Science

3 credits

Students will study selected topics, problems and recent developments in the elementary science curriculum and instruction.

Education 288.1 - *Seminar in Elementary School Science* *3 credits*

The major emphasis of this seminar will be individual action research projects in elementary science to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth. (Prerequisites, Educ. 202, 231)

Education 289 - *Workshop in Elementary Education*

3 credits

Students will have the opportunity to develop and test innovative curriculum materials and strategies with special emphasis on models for individualizing instruction.

RESEARCH

Education 290 - *Research Seminar*

Variable

Designed for students who are working on their M.A. thesis. Registration is only with permission of the student's advisor and the Departmental Chairman.

Education 300 - *Directed Study*

Variable

This course is designed for students working in independent study on special projects and workshops. Registration in this course requires permission of the student's mentor.

READING

Education 291.1 - *Foundations of Reading Instruction* 2 credits
A basic course in the foundations of reading designed to provide an introduction to reading instruction and reading programs in the elementary school.

Education 291.2 - *Foundation of Reading Instruction -
Secondary School* 2 credits
An introductory course in the foundations of reading instruction and reading programs in secondary schools. A comprehensive study of the specialized reading skills, techniques and methods which are essential for effective reading in secondary schools. Emphasis will be placed on specialized vocabularies, concepts and skills which are considered necessary for comprehension of reading materials pertinent to content area subjects.

Education 293.1 - *Diagnosis of Reading Disabilities -
Classroom Techniques* 3 credits
Theories for the classroom teacher's role in preventing, detecting and correcting reading disabilities. Emphasis will be placed on the nature and causes of reading disabilities, as well as the methods recommended for classroom teachers to use in dealing with these disabilities.

Education 293.2 - *Diagnosis of Reading Disabilities* 3 credits
A laboratory course geared for teachers in the elementary school, with emphasis on standardized tests and the informal reading inventory.

Education 293.3 - *Diagnosis of Reading Disabilities* 3 credits
A laboratory course geared for teachers at the secondary level.

Education 293.4 - *Diagnosis of Reading Disabilities -
Clinical Approaches* 3 credits
An instructional internship emphasizing clinical aspects of individual diagnosis and remediation of reading disabilities. This course is designed for advanced graduate students and provides for clinical experience. With permission of instructor.

Education 294.1 - 294.2 *Internship - Elementary and
Secondary Classes* 4 credits
An instructional internship for classroom teachers and/or reading specialists designed for developmental and corrective programs. Secondary practicum includes work with content area teachers. Supervised field experiences provide parallel public and parochial situations, with attention to individual differences. The laboratory work includes development of techniques and materials. (Pre-requisites: Ed. 293.1 or 293.2)

Education 295 - *Instructional Materials and Resources* 2 credits
A comprehensive survey of materials, resources and devices used to teach reading in the elementary and secondary schools. Emphasis will be placed on traditional and current trend materials, laboratory kits, teacher-made devices, instructional media, etc.

Education 295.2 - *Libraries and Literature - Secondary* 2 credits
Designed for secondary majors following a correlate in reading, this course will deal with the role of libraries in a reading program and with literature appropriate for adolescents, both achieving and non-achieving.

Education 296 - *Organization and Operation of Reading Programs* 3 credits

A lecture-discussion course dealing with the responsibilities of the reading specialist in setting up and directing regular classroom programs. Attention is given to types of programs and approaches to teaching reading in these different organizational patterns.

Education 296.1 - *Teaching Beginning Reading* 3 credits

This course emphasizes an in-depth study of the reading program in the primary grades, developing the concept of continuous growth from readiness to reading. Various approaches are considered to provide for more individualization in teaching reading, geared to the individual differences in children.

Education 296.2 - *Independent Study in Reading* Variable credit

For students who wish to carry on independent study in reading under supervision.

Education 297 - *Administration and Supervision of Reading Programs* 3 credits

The role of the reading supervisor as an administrator of a school-wide program, including clinics. Emphasis will be given to the changing concept of supervision; inter-staff relationships; public relations; in-service programs and demonstrations; behavioral objectives; principles of management; budgetary considerations. This course is taught in conjunction with the Division of Administration and Supervision.

Education 298 - *Practicum for Reading Supervisors* 3 credits

Supervised elementary and secondary school field experience designed to give students experience in the work of the reading supervisor. A definitely scheduled field experience will be conducted under supervision in a local school system.

Education 299 - *Reading, the Denied Learner and the Environment* 3 credits

A survey course identifying the types of denied learners and the resultant effects of social, economic, psychological, and linguistic factors on their success in learning to read. Consideration is given to planning workable programs and developing suitable materials for these learners.

COUNSELING AND GUIDANCE

Education 240 - *Foundations of Guidance* 3 credits

The philosophy of guidance and its role in the total school program. The activities and techniques of the counselor are introduced, with special emphasis on the secondary-school counselor. Problems of organization, development, and administration of guidance services will be included. Required in the certificate program and must be taken during the first semester of graduate study.

Education 241 - *Group Methods in Counseling* 3 credits

Provides a basic understanding of group dynamics and behavior. Processes and patterns of interaction are analyzed primarily from the standpoint of their broad educational significance. The selection, evaluation and use of group counseling methods and materials. Methods of developing and organizing group programs are also presented. Required in the certificate program as part of the sequence.

Education 242 - *Counseling Interview Techniques* 3 credits

The application of counseling theory to the practical interview situation. Included will be the use of test and non-test data in counseling the individual student. The counselor candidate will be expected to refine his ability to analyze and synthesize pertinent information. Required in the certificate program and must be preceded by Educ. 254 and Educ. 275.

Education 243 - *Current Issues in Counseling and Guidance* 3 credits

A professional seminar wherein emphasis is placed on the development of a sensitivity to the educational, sociological and philosophical implications of the counselor's role. This course is designed to provide for a smooth transition to the reality based school counseling situation. Individual counselor problems and deficiencies are identified and corrected. Required of all counselor education trainees.

Education 244.1 and 244.2 - *Supervised Counseling Experience* 6 credits

Actual counseling of secondary school students under supervision. A variety of experiences are provided, including counseling with students on an individual as well as a group basis. Required in the certificate program. Admission is only by consent of the instructor.

Education 246 - *Occupational, Educational and Social Information* 3 credits

Emphasis will be on the practical acquisition, evaluation and utilization of vocational, educational and social information. Psychological and sociological aspects of vocational choice and vocational adjustment will be presented and major theories of vocational development reviewed. Occupational and industrial classification systems will be studied, primarily in terms of their roles in enhancing the process of secondary school counseling.

Education 247 - *Elementary School Guidance* 3 credits

This course is primarily concerned with the roles of the elementary school guidance counselor and the elementary teacher as strategic members of the educational team in the elementary school.

Education 253 - *Evaluation and Appraisal I* 3 credits

A foundation course to provide the counselor with the quantitative principles and skills necessary for effective functioning in testing and action research settings. Relevant concepts in descriptive statistics, correlation, and tests of significance will be applied to principles of test construction.

Education 254 - *Evaluation and Appraisal II* 3 credits

Emphasis will be placed on the development of competency in the evaluation, use, and interpretation of tests and inventories used in assessing abilities, achievement, interests and personality. The relationship of informal data to the analysis of individual behavior will be included. Selected instruments will be examined in terms of their design and appropriate utilization in the secondary school program. (Prerequisite: Educ. 253)

Education 262 - *Learning Theories* 3 credits

A treatment of selected, well known learning theories. These are related to the learning process, derived from rational and empirical sources, with the object of showing relationships to teaching. (Prerequisite: Education 272)

Education 263 - *Contemporary Theories of Personality* 3 credits

An orientation to theories of personality, including the history, development and contributions of certain theories. (Prerequisite: Education 275 or consent of instructor)

Education 268 - *The Education of Exceptional Children* 3 credits

A general view of the field; historical background - both philosophical and legislative; survey of physical, mental and emotional handicaps and of giftedness; remedial and preventive practices; a look at the future.

Education 272 - *Human Development and Learning* 3 credits

A treatment of the psychological phases of human development, with emphasis upon the first two decades of life. Stress is placed upon the importance of interaction between phases of development, learning and classroom instruction.

Education 274 - *Developmental Psychology* 3 credits

An intensive treatment of psychosocial and biological aspects of human development with special emphasis on the implications for the counseling of secondary school students. Recommended for the certificate.

Education 275 - *Psychology of Adjustment* 3 credits

Provides an understanding of adjustive behavior. Attention is given to factors that influence behavior with special attention to adjustment problems of secondary school students. Recommended in certificate program and must be preceded by Education 274 or equivalent.

REHABILITATION COUNSELING

R.C. 301 - *Introduction to Rehabilitation Services* 3 credits

Historical and legal background of rehabilitation. The roles of rehabilitation workers and the nature of resources.

R.C. 302 - *Guided Field Experience in Rehabilitation* 3 credits

Directed group observation and discussion of habilitation and rehabilitation services provided in various community agencies and facilities, including hospitals, clinics, correctional institutions, state mental institutions, sheltered workshops.

- R.C. 303 - *Psycho-Social Aspects of Disability* 3 credits
Emphasis is placed upon social-psychological situations confronting a person of a typical physique, and how he copes with them. Also considered are the external and internal factors which can aid or hinder psychological adjustment. Selected mental disorders are discussed in light of their affecting the life situation of the individual.
- R.C. 304 - *Medical Aspects of Disability* 3 credits
Medical evaluation as part of the rehabilitation process. Study of body systems, medical terminology, and description of disabilities of importance to the counselor. Interpretation of medical information in reference to the social, psychological and vocational aspects of disabling conditions.
- R.C. 305 - *Vocational Evaluation in Rehabilitation* 3 credits
Emphasis is on techniques of vocational evaluation peculiar to rehabilitation such as work samples, job analyses and situational approaches. Evaluation of special groups, blind, asphasic, retarded, emotionally disturbed, etc. will be presented. Field trips to facilities utilizing these approaches will be made.
- R.C. 306 - *The Study of Special Groups* 3 credits
This course focuses on the psycho-social-cultural aspects of individuals in the following groups: the family, the public offender and delinquent, the alcoholic, the narcotic addict and user, the aged, the mentally retarded, the mentally ill, and the educationally, socially, and culturally disadvantaged. Emphasis is on describing the person in these groups — his personality, attitudes, value system, and social-cultural milieu—and providing treatment and counseling implications. Problems in their rehabilitation are also discussed.
- R.C. 308 - *Guided Field Work in Rehabilitation* 3 credits
Directed group observation and discussion of habilitation and rehabilitation services provided in various community agencies: hospitals, clinics, therapy centers, work training centers, schools offering special education.
- R.C. 309 - *Rehabilitation Counseling Practicum* 3 credits
Practice and application under supervision of the theory, principles, knowledge and skills to rehabilitation counseling and case management.
- R.C. 310 - *Human Dynamics* 3 credits
A generic view of human dynamics, adjustment, and coping mechanisms. Central concepts, such as anxiety, will be discussed in terms of its physiological and psychological correlates, how it is related to adjustment and/or maladjustment, how it affects various types of performances (problem-solving, work, etc.), how it is a normal reaction to a wide range of situational events, but how it also relates critically to many forms of emotional disturbances.
- R.C. 311 - *Psycho-Social Problems* 3 credits
Psycho-social-cultural aspects of individuals in the following groups are discussed: socially-culturally disadvantaged, drug addict and user, alcoholic, and public offender. Approaches and problems in their rehabilitation are covered.

R.C. 312 - *Mental Health and Mental Retardation* 3 credits

Emphasis is on the diagnosis, etiology, and medical psychiatric and behavioral dynamics of emotional disturbance and mental retardation. Approaches and problems in rehabilitation are covered.

R.C. 313 - *Medical and Psycho-Social Aspects of Disability* 3 credits

Emphasis is on individuals with physical and or visual disabilities; study of body systems, medical terminology, and description of disabilities of importance to the counselor. The psycho-social situations confronting a person of atypical physique are discussed. Approaches and problems in their rehabilitation are covered.

R.C. 320 - *Rehabilitation Counseling* 3 credits

Theories of counseling are discussed. Their relationship and appropriateness to the various groups of individuals with which a rehabilitation counselor works is covered. Problems in implementing specific counseling styles with certain types of rehabilitation clients are discussed.

R.C. 321 - *Group Processes* 3 credits

Theories of group counseling and dynamics are covered. Special group methods of dealing with different disability groups are discussed.

R.C. 330 - *Vocational Evaluation and Behavior Modification* 3 credits

Emphasis is on techniques of vocational evaluation peculiar to rehabilitation such as work samples, job analyses, and situational approaches. Special approaches to personality and vocational evaluation for blind, illiterate, retarded, and emotionally disturbed are covered.

R.C. 340 - *Principles and Problems in Supervision* 3 credits

Administrative and supervisory principles and practices are covered. Included are leadership and supervisory principles, staff development practices, and personnel selection. Problems in supervision are presented.

R.C. 350 - *Directed Study in Rehabilitation* Variable credit
(1 to 6 credits)

Elective course which student may select to study intensively an area of rehabilitation of particular interest to him. Approval of mentor required.

R.C. 360 - *Practicum in Rehabilitation Counseling* 3 credits

Practice and application under supervision of the theory, principles, knowledge, and skills of rehabilitation with clients in various settings.

R.C. 361 - *Internship in Rehabilitation Counseling* Variable credit
(12 maximum)

Full-time assignment in community rehabilitation agency, facility, or institution of the student's choice (with approval of mentor). Selection of site is usually made in terms of the student's interest and area of anticipated specialization.

Voad 360 - *Practicum in Vocational Adjustment* 3 credits
Selective placement in one or two participating state agencies, facilities, or institutions providing vocational adjustment services.

Voad 361 - *Internship in Vocational Adjustment* Variable credit
(12 maximum)

Full-time assignment to a state agency, facility, or institution providing vocational adjustment services.

MATHEMATICS

Math 404 - *Modern Algebra for Teachers* 3 credits
A treatment of groups, rings, etc. culminating in the negative result, Abel's Theorem, that there can be no formula for solving polynomial equations of degree greater than four. Wherever possible, the material shall be related to the various subsets of the real number system covered in the secondary schools.

Math 405 - *Linear Algebra and Theory of Equations* 3 credits
A study of second, third and fourth degree equations and systems of equations. Along with the methods of solution, an attempt will be made to provide the teacher with a backlog of applications for each type in the form of word problems.

Math 406 - *Introductory Analysis* 3 credits
An indepth study of the concepts and principles of calculus that are generally encountered in a secondary school analysis course. Emphasis will be placed on the development of the concepts of limit, derivative and integral and the various techniques a teacher might utilize in presenting them to a secondary school class. The student need not presently possess facility with calculus as this will develop during the course.

Math 407 - *Geometry* 3 credits
A study of Euclidean geometry including a discussion of methods and materials that teachers may employ in order to generate interest and enhance presentations. Wherever possible, relevant practical applications will be provided. A discussion of certain transformations will also be included.

Math 408 - *Tests and Measurements in Mathematics* 3 credits
The course will include a study of various diagnostic and aptitude tests in mathematics at all grade levels. Included will be discussions on validity, reliability, interpretation of test results and the necessary statistics.

Math 409 - *Introduction to Computing* 3 credits
A discussion of various secondary school problem solving techniques which involve the use of computers.

GRADUATE - UNDERGRADUATE COURSES

Political Science 407 - *Public Administration* 3 credits
Nature of public administration; structures and statutory limitations; staff organization and flow of command; employment policies, personnel training and management; employee organization; public relations.

Sociology 404 - *Cultural Anthropology*

3 credits

Study and comparison of the learned, shared and transmitted behavior patterns and ideals by which man has worked out his social relations, dealt with his environment and defined his place in the world.

Sociology 406 - *Community Organization*

3 credits

A general introduction to the field and process of community organization, both as a field of social work, and as a field of human endeavor. The coordination and financing of welfare activities, methods of appraising community needs and resources, planning and the initiation of welfare services. Services of a voluntary and governmental nature.

Sociology 411 - *Urban Sociology*

3 credits

A sociological analysis of the development and effects of modern urbanization on human institutions, population trends and social relationships. The interrelationships, form, structure and organized life in cities, patterns of urban structure and cities of the future. The role of politics, social agencies and elements making for organization and disorganization. Urban planning and redevelopment.

Sociology 413 - *Juvenile Delinquency*

3 credits

Juvenile delinquency as a social problem. Methods of treatment and prevention, including juvenile courts, clinics, probation, parole, correctional institutions, child placement and recreational programs.

Sociology 414 - *American Minority Groups*

3 credits

A study of the cultural background, distribution, assimilation and other adjustments of minority groups; problems arising from the contacts of these people who differ as to race and culture. Prejudice and discrimination as opposed to the democratic ideology will be considered.

Department of Business Administration

Dr. Joseph R. Zandarski, Chairman
Prof. W. E. Katorkas, Director

DEPARTMENTAL REQUIREMENTS

The applicant for admission should possess the baccalaureate degree in Business Administration and provide the Admissions Committee with evidence of sufficient undergraduate preparation of good quality in Business Administration or Accounting.

A minimum undergraduate quality point average of 2.4 (on the basis of "A" equals 4.0) will be required. An applicant unable to satisfy this requirement may be admitted on the basis of an acceptable score on a national examination such as, the Admission Test for Graduate Study in Business, the Graduate Record Examination or the Miller Analogies Test.

If a student possesses a baccalaureate degree other than in Business, background preparation is expected in the following areas: Accounting, Statistics, Micro-Economics, Macro-Economics and Business Law. Additional undergraduate work may be required in the areas of Finance, Marketing or Management, depending upon the student's M.B.A. concentration, his undergraduate preparation, and his work experience. A student who has been given Provisional acceptance (some prerequisites needed) may request exemption from one or more prerequisites if he feels he has sufficient background preparation in these areas. The determination of the student's background knowledge in the area (s) in question will be by written examination (s). Application forms for such examination (s) can be obtained from the Dean of the Graduate School. (See fee schedule for cost of examination)

COURSE REQUIREMENTS

All students who intend to work for the degree of Master of Business Administration must take a basic core of courses in the field of Business Administration amounting to 12 credits. Students who have had differential calculus will substitute an elective course for Business 209. Eighteen additional credits are required in courses to be elected from the areas of Accounting, Management, Finance, Marketing and Economics. Nine credits must be obtained in one of

these fields of concentration, while the remaining nine may be in any of the other fields. Thus, the total number of credits required for graduation is thirty.

Under certain circumstances and with mentor recommendation, a student may be permitted to substitute approved University of Scranton upper-division undergraduate credits in Business and Economics as part of his graduate program. Students should consult their mentors regarding details and regulations concerning such substitutions.

CANDIDACY

Students seeking the M.B.A. degree must, before completing nine graduate credits in Business Administration, file an application for candidacy. On receipt of this application and the completion of nine graduate credits in Business Administration, the student's record will be reviewed by his mentor and the Chairman of the Department to determine that all prerequisites have been met and to appraise his potential for successful completion of graduate work and growth in his field. No one will be permitted to continue his credits toward the M.B.A. degree until he has been formally admitted to candidacy.

PROGRAM IN BUSINESS ADMINISTRATION

Core Courses

- Bus. 200 Business Research Methodology
- Bus. 205 Managerial Economics
- Bus. 209 Mathematics for Business
- Bus. 215 Business Policy

Advanced Courses—Electives

- Bus. 220 Managerial Accounting
- Bus. 223 Advanced Accounting Theory
- Bus. 225 Accountitng Systems
- Bus. 242 Quantitative Management
- Bus. 244 Labor - Management Problems
- Bus. 246 Management of Human Resources
- Bus. 260 Marketing Management
- Bus. 261 Marketing Research
- Bus. 262 Sales and Advertising Problems
- Bus. 280 Financial Management
- Bus. 281 Financial Institutions
- Bus. 283 Investment Analysis
- Bus. 290 Business Conditions Analysis
- Bus. 291 Advanced Economic Theory
- Bus. 293 International Economics

COURSE PROJECTION: BUSINESS ADMINISTRATION

| Courses | Fa 72 | Sp 73 | Su 73 | Fa 73 | Sp 74 |
|---------|----------|----------|----------|----------|----------|
| 200 | x | | | x | |
| 205 | | x | x | | x |
| 209 | x | | x | x | |
| 215 | | x | | | x |
| 220 | | | | x | |
| 223 | x | | | | x |
| 225 | | x | | | |
| 242 | | x | | | x |
| 244 | x | | | x | |
| 246 | | x | | | x |
| 260 | | | x | x | |
| 261 | x | | x | | x |
| 262 | | x | | | |
| 280 | x | | | | x |
| 281 | | | | x | |
| 283 | | x | | | |
| 290 | | | x | x | |
| 291 | x | | | | x |
| 293 | | x | x | | |

Course Descriptions - Business

CORE COURSES

Bus. 200. *Research Methodology* 3 credits

Research methods in business and economics, with special attention to research techniques, application of quantitative method, bibliographic sources, and preparation of written research findings. This course should be taken the first time it is offered after the student is admitted to the program.

Bus. 205. *Managerial Economics* 3 credits

An intensive study of the problems of value and costs, including supply and demand, cost analysis and pricing theories, monopoly and competition, price control and allocation, and policies of the government as they affect prices.

Bus. 209. *Mathematics for Business* 3 credits

An introduction to various mathematical methods useful in the solution of business problems. Topics include simple functions, limits of a function, some differential and integral calculus, and some of their applications to business problems. If the student has passed a course in calculus, he may substitute any elective for this course.

Bus. 215. *Business Policy* 3 credits

Starting with conceptual and institutional foundations of business, the course covers the philosophy, history and ethics of business policy, culminating in the specific areas of policy, accounting, finance, marketing and management. This course should be taken in the last semester of the student's program, and only after all other core and major courses are completed.

ADVANCED COURSES—ELECTIVES

Bus. 220. *Managerial Accounting* 3 credits

A study of the accounting techniques and their effective use in managerial organization and administration. Emphasis will be placed on the principles of cost accounting and the statement of application of funds.

Bus. 223. *Advanced Accounting Theory* 3 credits

A study of the theories underlying accounting principles and the application of these theories and principles in specific situations. Current literature taken from various accounting periodicals and recent C.P.A. examinations will be used extensively. Emphasis is placed on the importance of high standards in the accounting profession and its importance to management.

Bus. 225. *Accounting Systems* 3 credits

How to make an accounting survey of a business, select the methods to be used, design the system of procedures and prepare the systems report for businesses of varied types and sizes.

- Bus. 242. *Quantitative Management* 3 credits
The quantitative approach to managerial problems of planning and controlling the design and operation of business enterprises. Topics include the use of personal probability as a basis for rational decision making, and operations research techniques including mathematical programming, queues, simulation and inventory theory. (Prerequisite: Bus. 209 or its equivalent)
- Bus. 244. *Labor-Management Problems* 3 credits
An analysis of the policies of employers, organized labor and the government, in attempting to solve labor-management problems, with an appraisal of the results. Discussions include evaluations of social, economic and legal trends as well as leading cases on the subject.
- Bus. 246. *Management of Human Resources* 3 credits
An understanding of manpower development, objectives, and policies involved in a business enterprise as found in a sound industrial relations program.
- Bus. 260. *Marketing Management* 3 credits
The many legal, competitive, social and administrative problems which face the marketing executive and the methods and tools used in solving these problems. Factual cases will be used throughout the course.
- Bus. 261. *Marketing Research* 3 credits
Research techniques used in solving marketing problems in both motivation and product research, including research methods and design, questionnaire construction, sampling and analysis; the contributions of the behavioral sciences to marketing research.
- Bus. 262. *Sales and Advertising Problems* 3 credits
Advertising and the sales efforts as tools of management in marketing industrial and consumer goods and services, and the effectiveness of these tools in achieving their marketing objectives.
- Bus. 280. *Financial Management* 3 credits
Principles of policy formulation in the modern corporation; the institutions, instruments and customary procedures that influence the determination of corporate policy; and the reasons for choices in seeking solutions to specific financial problems.
- Bus. 281. *Financial Institutions* 3 credits
A detailed survey of the more important financial institutions of the United States in order to determine their functions and inter-relations in the national economy, and their importance in the various fields of business administration.
- Bus. 283. *Investment Analysis* 3 credits
The investment markets and the financial analysis of various types of investments including industrial, railroad, utility, financial institutions, real estate, government, municipal and foreign securities; the mathematics and mechanics of investments.

Bus. 290. *Business Conditions Analysis* 3 credits

A critical evaluation of gross national product, disposable personal income, population changes, rate of economic growth, and their effects on sales. Methods of forecasting sales of capital goods, durable and non-durable consumer goods.

Bus. 291. *Advanced Economic Theory* 3 credits

The modern economy as a whole in its aspects of total income, aggregate demand, total output and employment, as well as their significant components and determinants. Relationship between micro-macro analysis.

Bus. 293. *International Economics* 3 credits

International trade theories and policy implication, with particular emphasis on present foreign economic policy of the United States. The economic forces and institutions which throw light upon and condition political relationships between nations.

Bus. 294. *Research Seminar* variable credit

Designed for students who are working on directed research projects. Registration is only with permission of the Department Chairman and the Dean.

Department of English

Dr. Richard H. Passon, Chairman and Director of Graduate Program

DEPARTMENTAL REQUIREMENTS

The applicant must, prior to the start of his graduate program, possess a baccalaureate degree; and must have completed on the undergraduate upper-division level a minimum of eighteen semester hours in English; and must, further, have a quality point index of not less than 2.5 (of a possible 4.0) in his upper-division courses in English. The applicant will, normally, be admitted to candidacy after the successful completion of nine graduate credits in English and the recommendation of the Departmental graduate committee. Applicants who have achieved a satisfactory score on the advanced literature section of the Graduate Record Examination prior to admission (scores to be reviewed by the graduate committee) may be considered a degree candidate immediately. The Department recommends that all applicants take the G.R.E., particularly those who contemplate proceeding to the doctorate. No student may continue to take credits towards a degree (after nine hours of course work) who has not been formally notified of his admission to candidacy by the Department.

COURSE REQUIREMENTS

A. Master of Arts in English

Candidates for the degree of Master of Arts in English may select a thesis or non-thesis program.

A 1. Thesis Program

The M.A. thesis program will require the student to complete successfully 27 credits in courses in English, as outlined below; pass a comprehensive requirement; and present a critical study (dissertation) of no less than 12,000 words. The comprehensive examination for the M.A. (thesis) will be an oral examination, in which the candidate will defend his dissertation and be questioned on literary material from the area of his thesis and two other major areas of English or American literature. The specific areas for each student's oral examination will be established by the student and his mentor, based on the thesis topic.

The specific course requirement for the M.A. (thesis and non-thesis) is English 200: Introduction to Research and Linguistics (three credits). The remaining 24 hours of credit for the M.A. (thesis) are to be taken in courses approved by the student's mentor. These courses should be so chosen as to combine student interest in certain periods and genres and coverage, both in range and depth, of the fields of British and American literature. The 30 credit hours necessary for the M.A. (thesis) are completed with the three hours granted for the dissertation.

A 2. Non-Thesis Program

The M.A. non-thesis program requires the student to complete successfully 33 credits in courses in English, including English 200; and pass a written comprehensive examination. All students entering the M.A. (non-thesis) program after August 31, 1971 will take a written comprehensive based on a departmental reading list which will be distributed to students at the time of admission. Students enrolled in the program prior to that date have the option of taking the "old" M.A. comprehensive, or the "new" reading list comprehensive.

B. Master of Science - Correlated Program

A total of 33 hours of credit, distributed between courses in English and Education, will be required for this degree, for which no dissertation is necessary. The candidate must also pass successfully a comprehensive examination in Education. Refer to Education Department requirements.

MODERN LANGUAGE REQUIREMENT

If the M.A. degree is to be a terminal degree, students will not be required to satisfy a modern language requirement. Nor will there be a modern language requirement for students following the Master of Science (correlated) program. Students intending to continue graduate studies elsewhere to the doctoral level, should, however, fulfill the modern language requirement by successfully completing a reading examination in the language of their choice, before taking the M.A. degree. The languages, normally, would be either French or German.

FIVE YEAR PROGRAM

A special five year program leading to the Master of Arts degree in English has been developed, which makes it possible for a student to obtain both the A.B. and M.A. degrees within this prescribed period. Undergraduate majors in English, at either the University of Scranton or College Misericordia, may apply for admission to the program

during the second semester of their Sophomore year (prior to the pre-registration period). Acceptance into the program is determined by a Departmental Board of Review. The student, after acceptance, is required to attend two summer sessions (between the Sophomore and Junior years; and the Junior and Senior years), to “acquire” approximately 15 undergraduate credits. This acceleration would make it possible for him to complete requirements for the bachelor’s degree at the end of the first semester of his fourth year. He would then begin his graduate program during the spring semester of the fourth year: attend the following summer session; and complete the graduate program and receive the M.A. degree in May of the fifth year.

A sample program will be found below; but there are many other possible variations:

- A. *Spring Semester, Fourth Year*
Six - Nine graduate credits
- B. *Summer Session - After Fourth Year*
Six graduate credits
- C. *Fall Semester, Fifth Year*
Nine - twelve graduate credits
- D. *Spring Semester, Fifth Year*
Three graduate credits and M.A. Thesis

Course Descriptions - English

The Graduate Departments of English at Scranton and at Marywood College cooperate by sponsoring their respective programs through a joint course list, which prevents duplication and wasteful overlapping. The graduate course numbers at Scranton and Marywood correspond, except that Marywood numbers are 500 and Scranton numbers are 200. Students enrolled in either MA program at Scranton may take up to 12 credits at Marywood, with the approval of their mentor.

English 200. *Introduction to Research and Linguistics* 3 credits
A survey of a selective list of books and periodicals that every student of literature should read; also an introduction to the general science of linguistics. (SCRANTON)

English 201. *Literary Criticism I* 3 credits
The major texts of literary criticism from Plato and Aristotle to Samuel Johnson. (MARYWOOD)

English 202. *Literary Criticism II* 3 credits
The major texts of literary criticism from Coleridge to the present, with emphasis on the chief critical theories of the contemporary period. (MARYWOOD)

English 204. *Linguistics* 3 credits
A survey of the nature of linguistic study and its relations to literature, to composition and especially to grammar. (MARYWOOD)

English 205. *Modern Grammar in the English Curriculum* 3 credits
The theory of transformational grammar, studied against such other theories as prescriptivism, structuralism and stratificational, in practical application to the high school and college English curriculum. (SCRANTON)

English 206. *Composition in the English Curriculum* 3 credits
Designed for both high school and junior college English teachers, this course will review traditional composition programs and approaches, explore innovative programs and methods, and consider the place of composition in a variety of curricula. (SCRANTON)

English 207. *Literature in the English Curriculum* 3 credits
In considering strategies for selecting, organizing, and teaching high school literature, this course will explore the central question of what a sequential, well-balanced, efficient program in literature should consist of. It will include adolescent literature, themes, genres, socio-political movements, thematic and short courses, autotutorial devices or systems, and inquiry methods. (SCRANTON)

- English 211. *Medieval English Literature* 3 credits
A critical study of the major literary works in English of the Middle Ages, from **Beowulf** through **Everyman**. (MARYWOOD or SCRANTON)
- English 214. *Chaucer, The Canterbury Tales* 3 credits
A detailed examination of the general structure of **The Canterbury Tales** and of the individual tales, with attention to specialized critical tools and techniques, and to various critical approaches to Chaucer. (MARYWOOD or SCRANTON)
- English 215. *Chaucer, Troilus and Minor Poems* 3 credits
Close study of Chaucer's poetry other than **The Canterbury Tales**, with particular emphasis on **Troilus and Criseyde**. (MARYWOOD or SCRANTON)
- English 220. *Shakespeare and Other Elizabethan Dramatists I* 3 credits
A careful study of Shakespeare's plays written before 1600, together with selected plays of Marlowe, Kyd, Greene, and Peele. (SCRANTON)
- English 221. *Shakespeare and Other Elizabethan Dramatists II* 3 credits
A careful study of Shakespeare's plays written after 1600, together with selected plays by Jonson, Chapman, Deffer, Beaumont, Fletcher, Tourneur, Marston, Middleton, Massinger, and Ford. (MARYWOOD)
- English 231. *Sixteenth Century Literature* 3 credits
Poetry and prose of the English Renaissance, with special attention to the new birth of poetic form; examination in depth of the great poetic achievements of Sidney, Spenser, and Shakespeare. (MARYWOOD)
- English 232. *Seventeenth Century Literature* 3 credits
A study in depth of the major British authors of the seventeenth century other than Milton. (SCRANTON)
- English 234. *Milton* 3 credits
An appreciation of John Milton as poet, critic, and innovator, together with a critical survey of the poet's sources, poetical works, and literary forms. (SCRANTON)
- English 236. *Augustan Studies* 3 credits
A study in depth of the major works of John Dryden, Alexander Pope, Jonathan Swift, Joseph Addison, Richard Steels, and William Congreve. (SCRANTON)
- English 238. *Dr. Johnson and His Age* 3 credits
The work of Johnson and his contemporaries studied in the light of the social, political, and intellectual background of the second half of the eighteenth century. (SCRANTON)
- English 239. *The English Novel, Defoe through Austen* 3 credits
Readings of selected novels of the eighteenth and early nineteenth centuries, with emphasis on the literary, social, and intellectual sources of the novel. (SCRANTON)

English 240. *Romantic Poetry and Criticism* 3 credits

An examination of the poetry and critical writings of the major romantic poets. The aim is not an exhaustive survey but an intensive study of several of the following: Blake, Wordsworth, Coleridge, Byron, Shelley, Keats. (SCRANTON)

English 243. *Victorian Poetry and Non-Fictional Prose* 3 credits

An examination of Victorian poetry and non-fictional prose in the light of its social, political, and intellectual backgrounds. The aim is not an exhaustive survey but an intensive study of several of the following: Tennyson, Browning, Arnold, the Pre-Raphaelites, Carlyle, Newman, Ruskin and Pater. (SCRANTON)

English 244. *The English Novel, Dickens through Hardy* 3 credits

Readings in selected Victorian novels in the light of the social, political, and intellectual backgrounds of the age, with emphasis on the artistic development of the novel. (SCRANTON)

English 250. *Studies in Modern Poetry* 3 credits

An intensive study of trends and techniques in such major twentieth century poets as Hopkins, Yeats, Auden, Dylan Thomas, Frost, Stevens and Eliot. (SCRANTON)

English 252. *Modern British Fiction* 3 credits

Readings of selected twentieth century novels in the light of the social, political, and intellectual background of the times. Such major British novelists of the century as Conrad, Joyce, D. H. Lawrence, E. M. Forster, Greene, Waugh, Virginia Woolf, and Muriel Spark will be included. (SCRANTON)

English 254. *Modern Drama* 3 credits

The development of drama (Continental, British, Irish, and American) from Ibsen to the present day. Among playwrights whose works will be read and studied are: Ibsen Strindberg, Chekhov, Synge, Yeats, O'Casey, Shaw, Osborne, Pinter, Wesker, Brecht, Anouilh, Ionesco, Beckett, O'Neill, Anderson, Wilder, Inge, and Albee. (SCRANTON)

English 256. *American Romanticism and Transcendentalism* 3 credits

Studies in the major works of Cooper, Poe, Hawthorne, Emerson, and Melville. (MARYWOOD)

English 257. *American Realism and Naturalism* 3 credits

Studies in the major works of Twain, Crane, Norris, James, and Howells. (MARYWOOD)

English 259. *Twentieth Century American Fiction* 3 credits

Modern American novels and short stories. The period from 1900 to the present will be covered, emphasizing such major figures as Fitzgerald, Hemingway, Faulkner, Steinbeck, and Barth. (SCRANTON)

(N.B. Each of the following seminars will involve concentrated study of a single literary figure, movement, or genre. The particular subject of each seminar will vary each year.)

English 270. *Seminar: Special Studies in English Literature* 3 credits
(SCRANTON and MARYWOOD)

English 271. *Seminar: Special Studies in American Literature* 3 credits
(SCRANTON and MARYWOOD)

English 272. *Seminar: Special Studies in Comparative Literature* 3 credits

(SCRANTON and MARYWOOD)

English 280. *Afro-American Literature* 3 credits

An introductory survey of Afro-American literature, stressing an in-depth examination of the works of Afro-Americans in poetry, song, drama, the novel, the essay, and the slave narrative. Emphasis will be placed on the relationship between the Afro-American experience and the African experience. The period covered is from the founding of the American nation to the present day. (SCRANTON)

A tentative cycle of courses at Scranton and Marywood is available from the Department. Please see the chairman.

Department of History

Prof. Timothy H. Scully, Chairman and Director of Graduate Program

DEPARTMENTAL REQUIREMENTS

The applicant must possess the baccalaureate degree and should as an undergraduate have completed a minimum of 18 upper-division semester hours in History, six of which must be in American History. Courses in Government, Political Science or cognate fields may round out the 12 other required undergraduate elective credits. The applicant should have a Quality Point Index of not less than 2.5 in all his undergraduate course work or have attained a score of 500 on the GRE. He will be considered as non-matriculated until he has successfully completed nine graduate credits in History and filed formal application for candidacy. In the event that significant gaps occur in the student's undergraduate background, additional graduate courses may be specified by the mentor. His acceptance as a candidate will be decided at that time by the History Department, after their appraisal of his capability for continued growth as a graduate student. No student may continue to take credits toward the degree until he has been notified of his acceptance as a candidate. At that time his mentor will be appointed.

MASTER OF ARTS IN HISTORY

Candidates for the Master of Arts in History may select a thesis or non-thesis program. The thesis program will require the student to complete successfully twenty-seven credits in courses described below, pass the Comprehensive Examination and present an acceptable dissertation for which three credits are allowed. The thesis topic must be approved by the student's mentor under whose active direction the dissertation should be satisfactorily completed.

The non-thesis program will require the student to complete successfully thirty-three credits in History courses and pass a Comprehensive Examination. Students concentrating in History and selecting a minor in another field may take credits in English, Education, or Psychology. These minor courses should be integrated with the student's program and are subject to the mentor's approval.

COMPREHENSIVE EXAMINATIONS

All candidates for the Comprehensive Examination in History must have:

- (1) the approval of the mentor
- (2) completed a minimum of 21 course credits in History. This includes History 200 and at least three sequential (two semester) courses. (Waivers will be based on individual cases).

MASTER OF SCIENCE - CORRELATED

A total of 33 credits in course work will be required of candidates for this degree, for which no dissertation is required. The candidate must also successfully pass a Comprehensive Examination in Education.

Please refer to correlated program with education.

Course Descriptions - History

Hist. 200. *Science and Methods of American Historians* 3 credits

A study and application of the scientific methodology required for gathering, assessing, synthesizing, and documenting historical information. Special attention will be given to the American historians who typify the distinct traditional approach and to those who represent significant departures from that trend.

Hist. 203. *History of the American Presidency* 3 credits

American Party System in selection of the President will serve as an introduction to a detailed analysis of the office, functions and powers of the Chief Executive.

Hist. 205. *History of American Federalism* 3 credits

Evolution, development and changes in federal and state relations, with an analysis of the forces influencing these changes.

Hist. 208. *The American Heritage I* 3 credits

Influences affecting the development of the American Nation; puritanism and its effect on the colonial experience; controversy occasioned by the Revolution of 1776; Hamiltonian and Jeffersonian ideals at work; implications of the Secessionist and Slave controversies on American institutional life.

Hist. 209. *The American Heritage II* 3 credits

Impact of Reconstruction; Social Darwinism; Imperialism; Liberalism and Conservatism on Contemporary American Institutions form the basis of evaluation and interpretation.

Hist. 210. *American Constitutional Law and History* 3 credits

Emphasis on the bases of American constitutionalism, the Federal Convention, the development of the judicial process, states rights vs. nationalism. Marshall and Taney Courts, and other issues which led to the Civil War.

Hist. 211. *American Constitutional Law and History II* 3 credits

The Fourteenth Amendment will initiate the second phase of this course. Problems dealing with Federalism, civil liberties and religious freedom will be treated.

Hist. 212. *Development of American Civilization I* 3 credits

The leading economic, social and cultural aspects of American life; study of the economic, religious and intellectual bases of colonial American life; the impact of the Revolution; development of towns and country life; sectional differences; early labor movements; growth of democracy and reform movements.

Hist. 213. *Development of American Civilization II* 3 credits

A continuation of the above course from 1865 to the present. The growth of industry, agriculture and agrarian discontent; the waning frontier; labor and immigration; literature and the arts; the diffusion of knowledge, religious tendencies.

Hist. 214. *American Foreign Relations:*

Revolution to Imperialism

3 credits

A study of America's use of diplomacy as an instrument of national self-interest in its rise from infant republic to world power.

Hist. 215. *American Foreign Relations:*

"Big Stock" Diplomacy to the Present

3 credits

Survey of involvements that world power status meant for the U. S. viz.: the Caribbean; two World Wars; Pan Americanism; free world security since 1945.

Hist. 217. *American Foreign Relations: Special Topics*

3 credits

A comprehensive study of selected topics, covering the entire range of U. S. foreign relations. Admission based on tangible proof of survey courses in the field.

Hist. 218. *Political and Social History I:*

Colonial America to 1783

3 credits

European beginnings — the English settlements; colonial society and politics; the struggle for the Mississippi Valley; the War of Independence.

Hist. 220. *Political and Social History of U. S. II:*

1789-1852

3 credits

American internal developments in the early years of the Constitution and the early Presidents, Jacksonian democracy's impact on American life; the impulse toward territorial expansion and the sharpening of regional clashes.

Hist. 222. *Political and Social History of U. S. III:*

1852-1900

3 credits

Analysis of the social, economic and political conditions that resulted in the struggle for Southern Independence; the war years in the North and the South; Reconstruction, big business; organized labor; internal political issues from Andrew Johnson to Theodore Roosevelt.

Hist. 224. *Political and Social History of U. S. IV:*

1900 - Present

3 credits

Tracing American development after 1900, stress will be placed upon the Roosevelt Era and its Progressivism, Wilson's New Freedom and the problems of World War I. The return to "normalcy," the Great Depression and the New Deal; F. D. Roosevelt and world politics, the origins and aftermath of World War II.

Hist. 228. *The American Heritage III*

3 credits

A study of contemporary political thought as approached by the methodologies of behavioralism, formalism and functionalism.

Hist. 229. *America and World Leadership*

3 credits

A study of America's role and relationship to contemporary international institutions and world problems.

Hist. 230. *Seminar: Contemporary Historical Problems* 3 credits
A empirical approach to modern historical phenomenon.

Hist. 231. *Urban History* 3 credits
The role of the city in the development of the American nation.

Hist. 237.1 *Teaching of History and Social Science* 3 credits
A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Hist. 238. *The American Party System* 3 credits
A historical treatment of the evolution of the two party system in the United States. Special emphasis will be given to the **modus operandi** of a political party, the ingredients of electoral success, and the relationship of the party system to national policy.

Hist. 239. *Nineteenth Century Europe* 3 credits
A detailed study of the social, intellectual, and revolutionary character of Nineteenth Century Europe. Special emphasis will be on the ideological developments which influenced European attitudes.

Hist. 240. *The Cold War* 3 credits
An examination of the major international developments since World War II; the partition of Germany; Arab-Israeli conflict; the emergence of the Third World; the fragmentation of the Soviet bloc; the war in Vietnam and the Sino American detente. Special attention will be given domestic factors influencing American foreign policy during the Cold War.

Hist. 241. *The Latin American Republics* 3 credits
An examination of the development and evolution of these modern republics. Special attention will be given to the relationship of American foreign policy to these neighboring states.

Department of Chemistry

Dr. Umbay H. Burti, Chairman and Director of Graduate Program

DEPARTMENTAL REQUIREMENTS

The applicant must, at the time of application, possess a baccalaureate degree and have ordinarily completed on the undergraduate level General and Analytical Chemistry and one full year's course in each of the following: Organic Chemistry, Physical Chemistry, General Physics, and Mathematics through Integral Calculus. Further, the applicant must have an over-all Quality Point Index of 2.5, with 2.5 in the Chemistry and other Science Courses. Certain of these qualifications may be waived at the discretion of the Department Chairman.

Students with limited course deficiencies in undergraduate preparation may be admitted with the approval of the Chemistry Faculty but should correct such deficiencies concurrently with their initial graduate courses.

The applicant will not be considered matriculated to candidacy for the degree until the following requirements have been satisfied:

1. Satisfactory completion of at least two courses in the Graduate Division.
2. Satisfactory completion of the Qualifying Examinations. Such examinations cover the areas of Organic, Analytical, Inorganic and Physical Chemistry. These examinations must be taken early in the first semester of the student's enrollment in the program.
3. Candidacy requirements must be fulfilled not later than the completion of eighteen credits in the Graduate Division.
4. At the discretion of his mentor, a student might be required to complete one Laboratory Preparation course in the Graduate Program, and/or a course in Chemical Literature in the Undergraduate Program.
5. At the discretion of the Department Chairman, Chemistry 252 may be required as a prerequisite to Chemistry 251 (Seminar).

The normal graduate load is 9-10 credits per semester. A Master's Degree will ordinarily require 3 to 4 semesters of study.

COURSE REQUIREMENTS

A. Master of Arts in Chemistry

Candidates for the degree of Master of Arts in Chemistry must complete successfully 24 credits in Chemistry, as outlined below, pass a Comprehensive Examination, and present a thesis demonstrating a distinct contribution to the field. Six (6) credit hours are allowed for the thesis which must be defended.

Prior to engaging in research relative to the thesis, the candidate must present a proposal for such research to his mentor and defend such proposal before the Chemistry Department Faculty. Arrangements are to be made with the candidate's mentor.

The specific course requirements for this degree are: Chem. 202, 211, 221, 222, 241, and 242. In addition, a basic laboratory course in the student's field of specialization will be taken unless sufficient preparation in advanced techniques is established. Attendance at Departmental Seminars is mandatory. An additional six (6) credits may be selected from elective courses in the student's field of specialization (analytical, biochemistry, organic, or physical). Research under the Mentor's direction culminates in a thesis which must be defended before the chemistry faculty.

For the Master of Arts degree, success in a German, French or Russian reading examination is also one of the requirements.

Special Five Year Program for Undergraduates

A special five year program leading to the Master of Arts degree has been developed to enable a high school graduate to obtain his Bachelor of Science and Masters Degree in Chemistry within this prescribed period. Undergraduates in Chemistry may apply for acceptance into the 5 year program upon completing their freshman year. Inclusion in the program involves accelerated study during the following two (2) years and the student will be expected to spend at least one entire summer, usually in his junior year, anticipating some of the usual undergraduate requirements. The senior year is divided equally between concluding undergraduate requirements and initiating fundamental or core courses of the graduate curriculum. Research, forming the bases of the thesis, will be initiated in the summer following the senior year and continue for two (2) subsequent semesters. In the fifth (5th) year, elective graduate courses for the degree are completed.

Students in this program will make formal application to the Graduate School at the end of their Junior year. The application fee is waived. Such students will retain their mentor assigned in the Undergraduate Program. The Graduate Qualifying Examinations will substitute for the Undergraduate Comprehensive Examinations.

B. Master of Science in Chemistry

The Master of Science Degree is awarded for successful completion of a non-thesis program.

A student accepted for graduate study under this program clears qualifying examinations as above and similarly plans his program.

Again, limited deficiencies are corrected prior to or concurrently with graduate studies.

In this program thirty (30) course credits will be required. Core courses, as above, are: Chem. 202, 211, 221, 222, 241, and 242. Additional elective courses totaling 12 credits complete the program. To provide for flexibility in the program and the undergraduate needs, one or more graduate courses in mathematics or cognate sciences may be taken as electives.

No thesis or language examination is required but comprehensive examinations are an integral part of the degree requirements.

C. Master of Science in Chemistry for Secondary School Teachers

The Master of Science in Chemistry for Secondary School Teachers is designed specifically for the professional improvement of high school teachers.

Candidates for this degree must successfully complete thirty credits, fifteen of which must be in chemistry and six more in the teaching of chemistry. Great latitude is allowed in filling in the remaining nine credits. There is no language or qualifying examination requirement.

The prerequisites for this degree are not as stringent as for the others. For admission, applicants should have completed two semesters in chemistry, and one year each of college physics and mathematics.

The required core courses for this degree are: Chem. 202, 211, 222, 245 and 246. In lieu of a thesis, the student must also take Chem. 257-58, a two semester course in the teaching of high school chemistry. With his mentor's approval, the student may take his remaining nine credits in any graduate or upper division undergraduate courses that meet his needs.

D. Master of Arts in Biochemistry

The M.A. program with its research emphasis prepares the student for doctoral work or for industrial employment, or research in biologically oriented enterprise.

Candidates for the degree must complete a minimum of twenty-four credits in chemistry-biochemistry as outlined below, pass comprehensive examinations and present a thesis demonstrating a contribution to the field. Up to six credit hours are allowed for the thesis.

The required core courses for the degree are Chem. 211, Chem. 222, Chem 233, Chem. 234. A minimum of an additional twelve credits may be selected from elective courses in the student's area of specialization: Chem. 235, 236, 237, 263, 264. If the student is deficient in undergraduate physical chemistry, he may be admitted to

the program and must take Chem. 245-246 in lieu of two elective courses. In addition, a basic laboratory course in Biochemistry will be required unless sufficient preparation in advanced techniques is established. The research, culminating in a thesis, must be defended before the Chemistry Faculty. For the M.A. degree, success in German, French or Russian reading examination is required.

E. Master of Science in Biochemistry

The M.S. program is designed as a terminal degree for professional improvement of Biochemists or the retraining of chemists in the field of Biochemistry.

Candidates for the degree must successfully complete 30 credits in Chemistry-Biochemistry as outlined below and pass a comprehensive examination in their major field. No thesis or language examination is required.

The Core Courses are: Chem. 211, Chem. 222, Chem. 233, Chem. 234. An additional 18 credits may be selected from Chem. 235, 236, 237, 263, 264 and others. If the student is deficient in undergraduate physical chemistry he may be admitted to the program and must take Chem. 245-246 in lieu of two elective courses. In addition, a basic laboratory course in Biochemistry will be required, unless proficiency in Biochemical techniques is established.

F. Correlated Master of Science in Secondary Education — Chemistry

The correlated Master of Science Degree in Secondary Education — Chemistry is designed for the professional improvement of secondary school teachers.

After acceptance for graduate study and qualifying examinations, an integrated course of studies is arranged under the Mentor's direction. Limited deficiencies in Chemistry preparation or background will be remedied prior to or concurrently with graduate studies.

Thirty-three credits are required for the degree of which fifteen (15) will be in Chemistry and eighteen (18) in graduate education courses. The required courses in Chemistry are: Chem. 202, 221, and 241. An additional 6 credits of electives in graduate chemistry are acceptable.

Neither a thesis nor a language requirement must be fulfilled, but comprehensive examinations in Chemistry and Education are prescribed.

Course Descriptions - Chemistry

Chem. 202. *Advanced Inorganic Chemistry* 3 credits

Theoretical concepts and their application to the reactions and structure of inorganic compounds. Introduction to co-ordination chemistry. Coordination chemistry and related topics; physical methods, reaction mechanisms.

Chem. 211. *Advanced Analytical Chemistry* 3 credits

Theory and description of modern analytical techniques with emphasis on physico-chemical measurements, including the limitation of physical and chemical separation techniques, and rates and mechanisms of analytical reactions.

Chem. 213. *Electro-Analytic Chemistry* 3 credits

Theory and applications of potentiometry, polarography, amperometry, coulometry, mass spectrometry and other analytical methods.

Chem. 214. *Applied Spectroscopy* 3 credits

Theory and applications in chemical analysis of emission spectroscopy, flame photometry, ultraviolet, visible and infrared spectrophotometry, fluorometry and various x-ray methods.

Chem. 218. *Analytical Methods* 1 credit

Laboratory practice with special analytical apparatus and methods used for process and control, and for research. (Lab course - Lab fee charged).

Chem. 221-222. *Advanced Organic Chemistry* 6 credits

A survey of synthetic and theoretical organic chemistry at an advanced level, with emphasis on stereochemistry and mechanism.

Chem. 223. *Theoretical Organic Chemistry* 3 credits

A study of the methodology of determining the relationship of structure to reactivity, the mechanisms of important reaction types and the factors that can influence rates and pathways. (Prerequisite: Chem. 222)

Chem. 224. *Heterocyclic Chemistry* 3 credits

An introductory survey of the structure and reactivity of important types of heterocyclic compounds. (Prerequisite: Chem. 222)

Chem. 225. *The Conservation of Orbital Symmetry* 3 credits

An explanation of the background of the Woodward-Hoffman Rules from Group Theory. A consideration of their applications to a broad spectrum of concentrated organic reactions.

Chem. 228. *Organic Preparations* 1 credit

Laboratory performance of a number of typical organic syntheses, with an emphasis on the most modern techniques. (Lab course - Lab fee charged).

Chem. 233-234. *Biochemistry* 6 credits

Chemistry of carbohydrates, lipids, proteins and nucleic acids. Mechanisms and kinetics of enzyme action. A study of the metabolism, digestion and absorption of carbohydrates, lipids, amino acids and proteins.

Chem. 235. *Biophysical Chemistry* 3 credits

Topics to include transport phenomena (at both the cellular and the molecular level), optical, mechanical and electric properties of proteins, theory of liquids and solutions, mathematical models in biology, and radiation biophysics. Choice and depth of topics will vary with the interests and abilities of the class. Prerequisite: Chem. 245-246 or equivalent.

Chem. 236. *Biochemical Genetics* 3 credits

Principles and theories of heredity, with special emphasis on biochemical genetics, with their applications to the genetics of microorganisms and human heredity.

Chem. 237. *Enzymology* 3 credits

A course on the chemical nature of enzymes with relation to mechanisms of enzyme action and kinetics. Purification and identification of enzymes and isozymes. Biochemical and physiological aspects of enzymes in living systems.

Chem. 237.3. *Teaching of Chemistry* 3 credits

Use of modern methods in the teaching of Chemistry on a secondary level. Recent developments in the treatment of subject matter, including advances in laboratory techniques and demonstration methods. Review of concepts of research as they apply to Chemistry.

Chem. 238. *Biochemical Preparations* 1 credit

Application of modern theories to biological chemical methods. Spectroscopy, chromatography, polarimetry, electrophoresis, ionophoresis. Applied problems in biochemical research using modern biochemical methods. (Lab course - Lab fee charged).

Chem. 243. *Chemical Kinetics* 3 credits

The mechanics of chemical reactions as revealed by various methods. Rate measurements and photo-chemical experiments are discussed. Topics include transition state theory and collision theory, unimolecular reactions, ionic reactions, modern experimental approaches to the nature of the transient intermediates and elementary reactions, molecular structure and reactivity, catalysis, tracer studies, hydrodynamics and kinetics, combustion and detonation.

Chem. 241-242. *Advanced Physical Chemistry* 6 credits

A comprehensive treatment of modern aspects of physical chemistry. The application of chemical thermodynamics to thermochemistry and chemical equilibrium. Advanced concepts of the theories of atomic and molecular structure. Quantum theory and introduction to wave mechanics.

Chem. 244. *Statistical Thermodynamics* 3 credits

A vigorous treatment of the applications of the laws of thermodynamics to chemical systems, including an introduction to statistical mechanics, with emphasis on the statistical interpretation of thermodynamic partition functions and the reversible and irreversible thermodynamic behavior of chemical substances. (Prerequisite: Chem. 242)

- Chem. 245-246. *Intermediate Physical Chemistry* 6 credits
A review of the fundamentals of chemical principles, and a treatment of the mathematics requisite for such review. Two semesters—this course is offered for graduate credit in program "C" only.
- Chem. 247. *Group Theory in Chemistry* 3 credits
A study of the background, formalism and application of group theoretical notions as they relate to chemical and physical problems. Special emphasis on applications to problems of atomic and molecular structure and spectra.
- Chem. 251. *Seminar* 1 credit
- Chem. 252. *Introduction to Research* 1 credit
A thorough review of the literature of Chemistry in preparation for active laboratory research. The use of such sources as Chemical Abstracts, the Journal Literature, Patent Literature and "Beilstein's Handbuch" will be stressed.
- Chem. 255. *M.A. Thesis* variable up to 6 credits
- Chem. 257-258. *Chemistry on a Secondary Level* 6 credits
This course is treated on a Lecture-Seminar basis with respect to content and methods dealing with Chemistry in the secondary school curriculum. Two semesters. This is similar to N.S.F. course in Chemistry. Only 6 credits total from this series may be claimed for degree.
- Chem. 261. *Polymer Chemistry* 3 credits
Introduction to the physico-chemical aspects of polymers: emphasis on structure, properties and application; thermodynamics of polymer solutions; statistical mechanical consideration of polymers; theories of rubber elasticity.
- Chem. 263. *Agricultural Chemistry I* 3 credits
Physical and chemical properties of soil. Improvement of soil for the purpose of plant production by means of chemicals, microorganisms and wastes. Chemical synthesis in plants.
- Chem. 264. *Agricultural Chemistry II* 3 credits
Biochemistry of plant growth and plant disease. The nature of pesticide action, growth stimulation and inhibition. Energy relations in the synthesis and production of living organisms. (Although Chem. 263 is not a prerequisite for Chem. 264, it is recommended that both courses be taken with Chem. 263 preceding Chem. 264).

Department of Physics

Dr. Eugene A. McGinnis, Chairman and Director of Graduate Program

DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the Baccalaureate degree in Physics or a related field in Engineering. An overall quality point average of 2.5 is required with a 2.7 average in the Physics and Mathematics courses. The applicant will ordinarily be expected to have completed as an undergraduate at least 24 credits in Physics. Included in these courses should be at least three upper division courses in Mechanics, Electricity, Modern Physics or Optics. Besides the above requirements in Physics, the applicant is expected to have at least one Mathematics course beyond the Differential Equations, Advanced Calculus preferred. Students with limited course deficiencies in undergraduate preparation may be admitted with the approval of the Physics faculty but must correct such deficiencies concurrently with their initial graduate courses. Matriculation to candidacy in the Graduate School will be deferred until admission requirements have been successfully accomplished, and the applicant has successfully completed at least two courses in the Graduate Division.

COURSE REQUIREMENTS

A. Master of Arts in Physics

Candidates for the degree of Master of Arts in Physics will be required to complete successfully 30 graduate credits and pass a comprehensive examination. Included in these 30 credits is a research dissertation for which a maximum of six credits may be allowed.

Physics courses 264 and 265 along with four courses from 268, 269, 260, 261, 278 and 279 will be required of all candidates for this degree.

B. Master of Science in Physics

Candidates for the degree of Master of Science in Physics will be required to complete 30 graduate credits in approved courses and pass a comprehensive examination. Of these credits 18 to 24 must be in Physics and must include Physics 264 and 265. Six to twelve credits, if approved by the Physics department, may be followed in allied Science or Mathematics courses.

C. Master of Science — Correlated Programs

Candidates for the Master of Science degree in the program correlated with Education must complete 33 graduate credits and pass comprehensive examinations. Of these 33 credits, 15 will be required in Physics and 18 in graduate education. Students in this program will have mentors assigned from both the Physics and the Education departments to maintain a close liaison with both departments during their program of studies.

Course Descriptions - Physics

Physics 252. *Mathematical Physics I* 3 credits

Determinants and Matrices. Fourier Series. La Place Transformations. Introduction to Partial Differential Equations and Boundary Value Problems. Special Functions of Physics including Bessel Functions, Legendre Polynomials, etc.

Physics 253. *Mathematical Physics II* 3 credits

Functions of a Complex Variable. Infinite Series in the Complex Plane. Theory of Residues. Conformal Mapping. Fourier and La Place Transforms. Advanced Partial Differential Equations. Boundary Value Problems in Physics. Green's Functions.

Physics 260. *Advanced Mechanics I* 3 credits

Lagrange's and Hamilton's equation for point objects. Hamilton's Principle and the Calculus of Variations. Two body central force motion. Linear vector transformations. Kinematics of rigid body motion. Corequisite: Physics 253.

Physics 261. *Advanced Mechanics II* 3 credits

Rigid body equations of motion. Special Theory of Relativity in the covariant four dimensional notation. Canonical transformations and the Hamilton-Jacobi theory. Theory of small oscillations. Prerequisite: Physics 260.

Physics 264. *Quantum Mechanics I* 3 credits

Basic postulates of Quantum Mechanics. The Schrodinger Wave Equation. Solution of the Wave Equation in One Dimension. The Harmonic Oscillator. Angular Momentum and Spin. Prerequisite: Physics 253.

Physics 265. *Quantum Mechanics II* 3 credits

Central Forces. The Hydrogen Atom. Matrix Representations and Transformations. Perturbation Theory. Many Body Problems. Identical Particles. Scattering. Prerequisite: Physics 264.

Physics 268. *Statistical Physics I* 3 credits

Interpretation of thermodynamics in terms of microscopic phenomena via kinetic theory and the statistics of Maxwell-Boltzmann, Fermi-Dirac, and Bose-Einstein. The application of both classical and quantum statistics to systems of non-interacting particles. Prerequisite: Physics 253.

Physics 269. *Statistical Physics II* 3 credits

Statistical mechanics of systems of interacting particles and other special topics. e.g. imperfect gases, liquids, ferromagnets, electrons in solids, transport equations. Prerequisite: Physics 268.

Physics 270. *Solid State Physics I* 3 credits

The crystal state of matter. Crystal conduction. Lattice energies and vibrations. Elastic constant. Ionic conduction. Properties of metal alloys. Free electron theory of metals. Metallic conduction. Band theory of solids. Conduction in solids. Corequisite: Physics 264.

Physics 271. *Solid State Physics II* 3 credits

Theory of semiconductors and semiconductor devices. Dielectric and optical properties of solids. Magnetic properties of solids, diamagnetism, paramagnetism, ferro-magnetism. Special topics. Prerequisite: Physics 270.

Physics 274. *Advanced Electronics* 3 credits

An extension of the basic electronic courses treating additional vacuum tube and transistor circuits and systems such as oscillators and signal generators, various special purpose circuits and basic analog and digital computer circuits and their operations. Prerequisite: Intermediate courses in Electronics.

Physics 275. *High Frequency and Pulse Circuits* 3 credits

Review of Electromagnetic wave theory. Transmission line and wave guide theory. Measurement of high frequency signals. Introduction to the circuit configurations used for the generation and processing of pulse, digital, and switching waveforms. Prerequisite: Intermediate course in Electronics.

Physics 276. *Electronic Systems* 3 credits

Applications of electronic circuitry in physical measurement. Pulse systems in nuclear measurements and in computers; servo-mechanical control system; feed back loops. Prerequisite: Intermediate course in Electronics.

Physics 277. *Electronic Systems* 3 credits

Vacuum tube and transistor circuits for instrumentation and measurement. Pulse counters; binary and decade scalars; forward and reverse counters. Vacuum tube and other high impedance voltmeter circuits. Integrating circuits; count rate meters. Coincidence circuits; switching circuits; Cathode ray display circuitry. Prerequisite: Intermediate course in Electronics.

Physics 278. *Electromagnetic Theory I* 3 credits

Electrostatics, Gauss's Law, Poisson and Laplace equations, Boundary value problems. Maxwell's equations. Prerequisite: Physics 253.

Physics 279. *Electromagnetic Theory II* 3 credits

Radiating systems. Special theory of relativity. Relativistic kinematics. Radiating charges. Special topics. Prerequisite: Physics 278.

Physics 282. *Nuclear Physics I* 3 credits

The study of nuclear models and force theories. Natural and induced radioactivity. Theory and measurement of alpha, beta, and gamma decay. Theory of the neutrino. Prerequisite: Intermediate course in Modern Physics.

Physics 283. *Nuclear Physics II* 3 Credits

Nuclear structure, nuclear spin, nuclear magnetic effects. Nuclear reactions with protons, alpha particles, and neutrons; induced radioactivity with neutrons, sources of neutrons, neutron detectors, nuclear fission. Prerequisite: Physics 282.

Physics 284. *Introduction to Biophysics* 3 credits

Topics include the theory of transport phenomena that are significant both in the living cell and in the physical characterization of bio-macromolecules, from the standpoint of statistical mechanics and non-equilibrium thermo-

dynamics. Molecular resonance phenomena and microscopic theories of pure liquids and solutions. Radiation in Biology. Prerequisite: Mathematics through Calculus.

Physics 290 and 291. *Experimental Methods* 3 credits

Experiments in optical spectroscopy, infrared spectrophotometry, nuclear magnetic resonance, laser optics, X-Ray diffraction, vacuum evaporation, Mossbauer effect, and beta and gamma ray spectrometry. Each student is expected to perform representative experiments in selected areas listed above and to pursue at least one area in depth in order to make some significant improvements or contributions to techniques. Students will make their own study of references to experimental methods and equipment under guidance and write a comprehensive paper in their work.

Physics 294 or 295. *Selected Topics for*

Independent Study

3 credits

Similar in scope to experimental methods except that student will investigate in depth the theoretical aspects of selected topics in Physics. A comprehensive paper on the topics investigated will be required of the student.

Physics 237.4. *Teaching of Physics*

3 credits

Use of modern methods and classroom aids in the teaching of Secondary School Physics. Accent on recent developments in the field of Physics. Introduction to some of the research tools used in Physics.

Physics 296 or 297. *Master's Thesis*

Variable

Based on theoretical or experimental research. Student subject to oral examination by Physics Staff members.

Physics 298 or 299. *Seminar*

1 credit

MASTER OF SCIENCE IN GENERAL SCIENCE

Dr. Eugene A. McGinnis, Director of Graduate Program

DESCRIPTION OF PROGRAM

The Master of Science degree in General Science is assumed to be a terminal degree. It is provided so that teachers at the elementary and junior high level will be able to update their science knowledge and thus be better able to handle the recently introduced curricula with its science content. For science teachers at the secondary level it provides an opportunity to become versed in more than one area of science and consequently enhance their teaching skills.

DIVISION REQUIREMENTS

The applicant must, at the time of application, possess a baccalaureate degree, with an overall Quality Point Index of at least 2.5. The applicant will not be considered to be a candidate for the degree until he has successfully passed three of the core courses. No student may continue to take credits toward the degree until he has been notified of his acceptance as a candidate.

COURSE REQUIREMENTS

A. Master of Science in General Science

Candidates for the M.S. in General Science must successfully complete thirty (30) course credits. The core courses, which must be taken, are: Science 201, 202, 203, 204, 205 and 206. Additional elective courses totaling twelve credits complete the program. These courses may be chosen, with the approval of the advisor, from any graduate or upper division undergraduate course offering in Biology, Chemistry, Physics, Mathematics, or Education.

B. Master of Science in General Science - Correlated Program

Candidates for the Master of Science degree in the program correlated with Education must complete 33 graduate credits. Of these 33 credits, 15 will be required in General Science and 18 in Graduate Education. Students in this program will have mentors assigned from both the Physics and the Education departments to maintain a close liaison with both departments during their program of studies.

Course Descriptions - General Science

COURSE DESCRIPTIONS

Sci. 201. *An Introduction to Science* 3 credits

A history of the development of scientific inquiry, particularly in Mechanics and the origin of the Earth, from the early Greeks to Newton. Determination of the age of the Earth with particular emphasis on radioactive dating methods. Study of linear motion. Introduction to Newton's laws, conservation of momentum and energy. Study of rotational motion. Study of Harmonic Motion and transfer of energy by waves. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 202. *Classical Physics and Transition to the Atomic Age* 3 credits

Probability and statistics and their role in human affairs. Selected topics in electricity and magnetism, heat and thermodynamics. History and development of space science. Indeterminacy and limitations of classical Physics. Theory of relativity. Transition from the classical to the Atomic Age. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 203. *Modern Physics and Its Impact on Man's Progress* 3 credits

Beginnings of Modern Physics. The Bohr atom. Wave mechanics. The nucleus and radioactivity. Nuclear power and its effect on man. Overall effect of science on the progress of man. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 204. *Chemical Concepts and Their Significance in Life* 3 credits

Nature of chemical bonds and reactions. Chemistry of carbon as an organic basis for living organisms. Organic, inorganic, and Physical chemistry in relation to the origin and continuance of life. Significance of chemical principles in the interaction between living organisms and their environment. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 205. *Chemical Compounds as a Basis for Life* 3 credits

Biochemical production, function, and nature of the building blocks for the living cell. Chemistry of heredity and information systems. Energy conversions in the living cell. Biochemical aspects of the interaction between organisms, environment and drugs. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 206. *Biological Structure and Function of*

Living Organisms

3 credits

Molecular, psychological and morphological levels of organization. Differentiation, division and growth of cells. Biological and psychological aspects of Genetics, reproduction and ecology. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 207. *Geology*

3 credits

The earth: its structure, composition, and agents of construction and destruction. Evolution of the earth and the development of life upon it. Identification of rocks and minerals. Interpretation of topographic and geologic ages.

Sci. 208. *Astronomy*

3 credits

Survey of solar systems, stars and galaxies. Observational basis of Astronomy. Discussion of artificial satellites and space vehicles as a modern method of obtaining scientific information. Opportunity for astronomical observation will be provided.

Sci. 209. *Metcorology*

3 credits

Study of the atmosphere and the principles associated with Atmospheric changes. Methods for observing and recording weather data. Reading and interpreting weather maps.

University of Scranton

The Graduate Faculty

HARRY B. STRICKLAND (1963)

Associate Professor of Business Administration (1968)

B.S., St. Vincent's College; M.L., Ph.D., University of Pittsburgh

DONALD L. ANGELL (1969)

Assistant Professor of Education (1969)

B.S., Ithaca College; M.S., University of Oregon;

Ph.D., University of Illinois

MARTIN D. APPLETON (1955)

Professor of Chemistry (1964)

B.S., University of Scranton;

M.S., Ph.D., Pennsylvania State University

GEORGE V. BABCOCK, JR. (1963)

Assistant Professor of Economics (1965)

A.B., M.A., Ph. L., Boston College; M.B.A., New York University;

Cand. Ph.D., Cornell University

CARL P. BARONE (1970)

Assistant Professor of Counselor Education (1970)

B.A., M.A., Colorado State College;

M.A., University of Wisconsin; Cand. Ph.D., Ohio University

JOHN A. BEIDLER (1964)

Assistant Professor (1967)

Chairman, Department of Mathematics (1970)

A.B., King's College, M.A. Lehigh University, Cand. Ph.D.,

Pennsylvania State University

MRIGEN BOSE (1968)

Assistant Professor of Business Administration

B.S. Patna University; M.S. University of Kentucky;

Ph.D. University of Utah

FRANK C. BROWN, D. Et U.* (1939)

Associate Professor of History (1954)

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CHARLES J. BUCKLEY, D. Et U.* (1947)

Associate Professor of Business Administration (1968)

Dean of the Evening College (1963)

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UMBAY H. BURTI, D. Et U.* (1935)

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JOSEPH M. CANNON (1959)
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ELLEN M. CASEY (1969)
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PAUL J. CASEY, S.J. (1955)
Professor of Chemistry (1972);
Director of Computer Center (1965)
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FRANCIS H. CURTIS (1966)
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JOSEPH C. DOUGHERTY (1967)
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B.A., St. Charles; M.A., Ph.D., Georgetown University

JOHN J. DUNSTONE (1966)
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Ph.B., University of Santa Clara

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